799

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GTAGTACATC AAACGAATAG TCCAAATCAA TGAGTCAGGG AAAAAACTCG ACTTCAGGAA    8640

AAAATGAAGC AAACATTCCC ACAATAAAAC GCATAGTACA AGGTTTGTAC TGCCCCCCAA    8700

AAAGTTAGAC AATTAATTTA TCCGAAGGAT TTAGTTCTGT ATTGCACAGA GCTAAGTCCT    8760

TTTAGTTTTA TCTTAATTCT CTTATTGTTG TAATAATCAA TATAGTCTAT AATGGCTCGT    8820

TCCAATTGAT TAAGTGATTT AAATGTTTTC TCATAGCCAT AAAACATTTC GGATTTTAAA    8880

ATGCCAAAGA AAGATTCCAT CCTACCGTTG TCTTGGCTGT TGCCCTTACG TGACATGGAT    8940

GCTTGAATTC CCTTACTCTC TAGGAAGCGA TGATAAGAAT CGTGTTGATA TTGCCAGCCT    9000

TGGTCACTAT GGAGAATCGT ATTCTCGTAG TGCTTCTCTT TGAATGCCTG TTCCAACATT    9060

AACGATCAAT CAATTTAATC ATGTACCTAA GATTAGAATT GTTTATCCCA AATTTATTTG    9120

AAAGCTTCTC TAAGCTATAT CCTTGTTTTC TAAGTTCATA GATCTGAACT TTATCATCAT    9180

AAGTTAATTT CATAATAAAA ACACCCCAAA AGTTAGATTT TTTCTGTCTA ACTTTTGGGG    9240

TGTAGTTCAT GTACACCTGA TATGATGCGT TTTATAATTT TAAAGACTTT TTGACCAGCC    9300

TCATTTTTTT AACTTGATAC TCAGTGAAAA GCAAAGATTA AACTAGGAAG CTAGCTGTAG    9360

GCTGCTCAAA GAACAGCTTT GAGGTTGTAG ATAAAACTTG TGAGGTCACC AACATATATA    9420

ATGTGAAGCT GACGTGGTTT GAATAGATTT TAGAAGAGTA TGAGTCTGGA AGTTTTAATG    9480

GATAATGCAA GATTCCATAG AATGGGTAAG CTAGAGTTCT TATGTGAAGA GTTTGGGCAT    9540

AAACTTTTAC CTTTTCCTCC CTACTCATCT TAGTATAGAA AAGTGAATCT GAAATAGTAC    9600

ATAACTGCTT CTAAAACATT CTTATAAATT GATTTAAATT CTCAAATCAT ATTATTCAGT    9660

TCTTATTTCA TTTTGTTCTA CAATCCTGTT GAGAAGACAC GTGTTCATAT CAAAAAGGTA    9720

TTGGCAAGTT GCAATACCTT TTTACGAGGC TCTGTTGTCT TATTTTTGTT TCAACTGACT    9780

ATATCTCCTA TGGTTCTAGT TCAGAAGGCT AGGCTATAAT TATGATTGAT AAGAAGTATC    9840

ATTCCAAGTA TTGGGAGTGA ATGTTTCAAA ATCATGGGTT TCTATAATGG TCAGGCTGGC    9900

ATTTGCTAGA CCGCCATCTT TACGAAGAAG TGGTTCTTTA TAGCCTAGGA GAGTACGAAG    9960

ACTGGCAGTA AGATTGGCGC CGTGTCCGAC AATTAGAATA CGTTCAGCTG GACTATCTTT   10020

TAATGATTTG ATAAATTGGA TGGTCCGTTG AGTTGTACTA TAGAGGGATT CGGCTCCGAA   10080

CATTCGAGTG TCAAATTGAG CAAGATTTGA ACGAAAGCC TGGATTTGTT GCGGGTAAAT   10140

AGCTTCCAAG GTTGCAATTT TCAAACCTTC TAACTTCCCA AGTTGCCATT CACGGAGATT   10200

AGGAACGATT TCTAAAGAAC AGGGGGTATA GAGTTGACTT TGGATAATCT CAGCAGATTT   10260

GACCGCTCGA GGTAAATCAC TTGAATAAAT CTGATCAAAA GGAATTTCCT TGAGATACTG   10320
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800

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ACCAAGTCGT TTTAGGGTTT CAATGGATTC AGGAAGAAGA GGAGAATCAC CACTAGCACC          10380

TTGAAAACGA CCTTCTTGGT TCCAGAGGGT ACGACCGTGG CGGACAAAGT AGAGTTTCAT          10440

TACTTGATGT CCTCCAAAAT ATCTACAAAG TCTGCCTTTA CAAAGCTAGC CAAGTCTTGT          10500

GGCGCGACGA TAATGCTGTG TCCGACTTCG CCTGCAGAGA CAATCATTTG ATCCAAATCT          10560

AGAGCAATTT TATCGATAAA AATGGGATAA TTGTGTTTCT GACGAATTCC GACAGGATTA          10620

TTGGCTCCAT GAATGTAACC AGTTGTTTTT TCTAAGTCCT TTTGTGGAAT CATGCTCACT          10680

TTTTTATTGC CAGAAATTTT AGCTAGTTTC TTTTCAGACA AGTGCTGAGT GATAGGGACA          10740

ATTCCGATAA TCGGTCCGGT CTTGTCTCCC AAAAGCGCCA AGGTTTTGAA AATCTGATCT          10800

CGTTCATAAC CTTGAGGAAG CTCTCCTTCT AGGGCATTGA TTTGAATCCC CTGATGAGGG          10860

ATAGCTGCTT TAGATAGGAT TTGTTCCACC AATGTTTTTT TGATTTTAAC TTTTTTTGCC          10920

ATTATTTATA TTTATCCTCC AATTGACTCA TCCAAATACC AAGCCAGATT CCCAGCGCAA          10980

AGAAGAAGGC GATGATGACA TAACCGACAA GTGAAAGTCC TGTGTATTGG ATACTTTCAG          11040

CGTTTCCTGC ATTTGGAATT AAGATCAAAA GGGTACTTGA TAGGACGATA CCGATGATGA          11100

AATGATAGAC GAACTGTTTA CGGAGTTCTT CTAGTTCTCC GTCCGTCCAA GCGTAGGCCA          11160

CTTCTTCTTT CTTGCCTTTA CCTTTGGACA TCTTGTAAAG AGGTGGGAGG GCAATATAGA          11220

CATGACCTGC CTCGACTAGC GGACGCATGT AACGGTAGAA AAATGTCAAG AGCAAGGTCT          11280

GGATATGGGC ACCGTCGGTA TCCGCATCG                                           11309
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(2) INFORMATION FOR SEQ ID NO: 109:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 5548 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 109:

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CCATAGTCTA ACAAGTCTTT GTAAAGGTTT ATCCCTGATT CATGTAAAGA TTGTGTAAAG          60

AATCAAAAAA AGCCACTTTT GAAAAATGGC TGCTCCTAAA AATAGCTTTA AAAATTATTA          120

GTCCTGTGCG AAAGATTGGT TAGGAAGAAA AATCGTGAAG CAACTGCCTC TGCCAAGCTG          180

ACTCGTCACC GTGACTTGGC CACCTAATAA TTGACTGAGT TCTTTGACAA TGGCAAGGCC          240

AAGACCAGTG CCACCAGTTT GTCTGCTTCG ACCTTTATTA ACTCGGTAAA AACGTTCAAA          300

AATACGATCC TGCTCTAATT GACTAATACC AATCCCTGTA TCTGATACAG AAATCTTAAT          360

GCCTTCGTTC ACCTTTTGGG TCTTGACCTC AATTTTTCCC CCTTGTTCAG TGTAACGGAT          420
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801

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GGCATTGGAT AAAAGATTGA GTAAGATTTG GGAAAGTAAT TGACTATCTG ATACGAGGGT        480

GACATCATCT GGCACCTGCA CCTTTAGCTG TAAATCCTTC TTCTTGAGCT GAGGTTGCAA        540

GCTTTGAGTC AAATCCTGTA CAAATTCTGC CAAAGAAAGG GTCGTCCATT GTATAGGCAT        600

TTGTTGAGCC TTAGATAAGG TAAGAAGATG CTCAACAATA TGCTCAAGAC GCAAACTTTC        660

TTTGTAAATA ATGTCTAGAA AGTCATCCTT GAGCGCTTCT TCTTCAGCTG ACATCCCCTT        720

AATGGTTTCA GCAAAGCCCT TAATCGAAGT AACTGGTGTC CTCAATTCAT GGGAGGCATT        780

TGAGACAAAG GCTAAATTTA ACTTTTCATA AGTTCTAATC GTTGTTAAAT CATATAGCAA        840

GACGAGCACA GCTTCCACAG ATTGGGTGGG GCTAAAAACG GGAACTGCTG TCACTTCTAA        900

AATCAAGTCA CCCTCATGAA ACCCACTTAC TTCTTGTTTT AACCTTGTTT TTTGATCAAA        960

GGCTTGGTGA ACTAAATTCC GAATATCCAT CCGTTTGAGG TCATCAAGTG AACTTATGTC       1020

GCCGTCCACA TCGGGAAAAT AATGAGGCAG AGAGCGACTG ATAATAACA TCTGACCTTG        1080

AGCGGAAACT AAAAACGTCC CCATGGTTAG GTGCGACAGA AGAACCTCCA TTGTTTCGGC       1140

TAGATCCTTG TATTGCTGAT CCTGTTGGGA GACTTTGGTT TTTAGGCCAG ACACATACTG       1200

AGCCAAAGAC TTTAAGTCTT CTTGCCCTTT TTCTAAAAAG TATTCACTAC TGGTCAAGAG       1260

AGGTTGGTGC AAGGTCTCAA AAGCAACTTC CCATTTCCAA AGGCAAAAGA GCCAGTAGCC       1320

ACCTAGTCCC AAAGAAAGGG CTAGAAGAAA GAGACCGATG CCTTTACTGA TCCAAGTTAA       1380

TGCCATCCCT GCAATCAGAA TGAGGCTAAC ACTTAGATTG ACTAGCCAAA ATTGAAGGTA       1440

GCGTTTCATC TATAACTCCT TGAACTTATA ACCATAACCC CGAATGGTTC GAATAAATTG       1500

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ACGTGTTTCC TGCCCAAAGT CATACCCCCA GATACGTTCC AAAAGACGCT CTCTAGTCAG       1620

TGTCATGTTG GGATGTTTCA TAAGATAGAG CAAGAGTTCA AATTCTTTTG GGGTCAAACT       1680

CAGTAACTTA TTCGCCTTGT AGACTTCATG ACGCTCAGGG TATACTTTCA AGGTCCCAAA       1740

TAGCCAAGAA TCGTCAGCGA TATTATCTGA ATCATCTCCT TCTTGTTCTC CTTTAGTTCG       1800

CCTGAGGACA GCCTTGACAC GCGCCAGCAA TTCTCTAGGG CTAAAAGGCT TGGTCAGGTA       1860

GTCATCAGCC CCTAATTCCA AGGCCAAAAC CTTATCAAAT TCATCACTTT TCGCAGAAAC       1920

CATCATAATT GGAGTTTTGA CGCCTTTGGC TCTCAGCCGC TTACAAACTT CCATGCCATC       1980

TAATTGTGGT AACATGATAT CAAGCAAGAT AAAATCAAAG GGTTCTGTTT CTGCCAAAGC       2040

TAAGGCCTTC CGTCCATTTG TCACCAATTG AGTAGAAAAG CCTTCCTTAC TTAAATGGTA       2100

GTCAAGCAAT TTCAGAATGT GTTCTTCATC ATCCACTAAT AAGACTTGTT TTGTCATCTA       2160
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802

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TTATCTCCTA TTGGTAACAT TATAACACAA TTATCAGAAA TCCTAACATT GCTAAATCAG    2220

ATTAAATTTG CCTATCAAGA CTAGTATCTG GTCAAACGCT CAATCATCTC CTTGTGCTCT    2280

GGATAGGTCG CCAGTAGATC TACCCTTTCA AATAATTCAA AATCCTCAAA TTCAAAACCA    2340

GGAGCAACAA GACAAGAAAC CAGAGCATCA TCCTTATCAA CTGTTGATCC CCAAATAGTG    2400

CCCTTAGGAA CACAGTAGTG AAGTTGTTGC CCTTTGGATA TGTCCAGGCC TAAAGTGACT    2460

GCTTCGTAGT GACCATCTGC TGTAATCATG TGAACAGTAA GTGGGGATCC TGCATGAAAA    2520

TACCAGATTT CATCTGCTGT CAATCGGTGA AAATGTGAAG GATTCGTTTC TTCTAATAAG    2580

AAATAAATAC TGGTATAAAG CGCCCTTCCC TTACCAGCAA GGTTTATAGT GTCTGAAGCT    2640

TTTTTTGTTT GTCTAAAATA GCCACCTTCA ATATGGGGAG CTAACTCTAG AGTTCTTATC    2700

AAGTCTTCTT TATCCGTCGG AGCCAATGGG TTGAAGTAAC TCTTGTTCAA AGTGGTTTTA    2760

CGATTTCAAG AACTCCTCTC AGTTCTGAGG ACACGGTAAT GATTGATGCG ACGGAAGTAC    2820

AAATCAATCG CCCTAAAAAA AGAATTAGCG AATGATTCTG GTAAAAAAAA TGCCACGCTA    2880

TGAAGGCTCA AGCGATTGTC ACAAGTCAAG GGAGAATTGT TTCTTTGGAT ATCGCTGTGA    2940

ACTATTGTCA TGATATGAAG TTGTTCAAAA TGAGTCGCAG AAATATCGGA CAAGCTGGTA    3000

AAATCTTGGC TGACAGTGGT TATCAAGGGC TCATGAAGAT ATATCCTCAA GCACAAACTC    3060

CACGTAAATC CAGCAAACTC AAGCCACTAA CAGTTGAAGA TAAAGCCTAT AACCATGCGC    3120

TATCCAAGGA GAGAAGCAAG GTTGAGAACA TCTTTGCCAA AGTAAAAACG TTTAAAATGA    3180

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GATCATATTT ATGTCCTAAA ACTAGTGAAG CGCCTAGCCA AAGTCCGAAT AGGATTTGGC    3540

GTTAGTTACT TAGATTGCTT TGCAATCAAG TAACTTTGGC GATTTACATC TTCTCTGGCG    3600

CTTCTACTCC AAGCAAGCGA AGGGCTTCTT TGAGAACGAC TGCGGTTGCG TAGCTGAGGG    3660

CTAGACGGCT GTCGCGTTCT GGGCTTTCAT CCAAGATACG TGTATGTGCA TAGTATTTGT    3720

TAAAGGATTG AGCCAGGCTA ATTGCAAATT TAGCAATGAT AGAAGGTTCA AAGTTATCTG    3780

CCGCACGGTT GATAATACGT GGGAAGTCTT GAATGAGTTT AATGATTTCC CAGCTTTCAG    3840

TATCATTCAA GCTATAGTTG CCAGCTGTTT CTGGTTTGAA ATCGGCTTTG CGTAAGATAG    3900

ATTGGATACG AGCGTAGGCA TATTGAACGT AAGGTCCAGT TTCACCCTCG AAGGATACCA    3960
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803

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TAGCCTCTAG GTCGAAGTCG TATCCATTTG TACGGTCGGT TTTGAGGTCA TAGAATTTAA      4020

TGGCTCCAAT CCCAACAGCA TGTGCTACTT GGTCTTTGTT TTCTAGTTCA GGATTTTTAG      4080

CCTCGATTTG GACCTTGGCA CGGCTAACAG CCTCTGCAAC AGTAGGCTCT AGCAAGATGA      4140

CATTCCCTTT ACGAGTAGAG AGTTTCTTCC CTTCTTTTGT AACCAAACCA AAAGGAACGT      4200

GAGTAATGTC GTCACTCCAG TCGTAGCCCA TCTCTTGCAA GACAGCTTTG AGCTGTTTAA      4260

AGTGGGCAGA TTGTTCTTGA CCAACGACAT AGATAGATTT AGCAAATTGG TATTCGTTTT      4320

TACGGTAGAG GGCTGCAGCC AAGTCACGTG TGATATAGAG AGTTGCACCA TCAGACTTCT      4380

TGATGAGGGC TGGATGTTCA ATTCCATATT TCTCAAGATT CACAACTTGG GCACCTTCTG      4440

ATTCAAGAAG TAGTCCTTTT TCAGAAAGAA TGTCTACAAC TGCATCCATC TTATCATTGT      4500

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ATTCCACTAA ACTTTCATCG CGGAACCATT GCCAAAGAGC GAGAGCTTCC TCATCTCCAT      4620

TTTCAAGTTT ACGGAACCAT TCGCGCGCTT CTTCATCCAA GCTAGGGTCA TTTTCAGCTT      4680

CAGCGTTGAT GCGGACATAG AGTTTAAGGA GTTCATCGAT TGGATGAGCT TTTACAGCTT      4740

CTTCGTCGCC CCATTTTTTG TAGGCAACAA TCAACATCCC AAATTGTTTA CCCCAGTCTC      4800

CCAAATGGTT GACCTTGACC GTTTGATAAC CGATTTTTTG GAAAATATGT GACAAGCTAT      4860

CTCCGATAAC AGTTGAACGC AGGTGGCCAA TAGAAAATGG TTTAGCGATA TTCGGACTAG      4920

ACATGTCGAT AACAACATTT TCTTGTTTAC CAATATTTTG GTCAGCATAG TGTTCTTTTT      4980

CAGTGGTAAC AGCTTGCAAT ACTTGAGCAG AAATGGCAGA TTTATCAAGG AAAAAGTTAA      5040

CGTAAGGTCC TGTTGCGACA ACTTTTTCAA AGGCTTGGCT GTTCATTTTT TCAGCCAGTT      5100

CAGCCGCAAT CATTTGTGGT GCTTTACGTT CGACTTTTGC AAGAGAAAAA GCAGGGAAAG      5160

CAATGTCTCC CATTTCTGAG TTTTTAGGGG TTTCCAGTAA CTTTAAAATA GCCTCTTGGT      5220

CCAGGCTATC AATGATGCTA GATAATTCGC TAGCAATCAA TTCTTTTGTA TTCATTAAGA      5280

GCTCCTTTTT GGACTTTTCT ACTATTTTAT CACAATTTTA AAGAAAGAAG AAAAAATTTT      5340

TGAAATCTCC TGTTTTTTTG GTATAATATG GTTATAAATA TAGTTATAAA TATGCACGCA      5400

AGAGGATTTT ATGAGAAAAA GAGATCGTCA TCAGTTAATA AAAAAAATGA TTACTGAGGA      5460

GAAATTAAGT ACACAAAAAG AAATTCAAGA TCGGTTGGAG GCGCACAATG TTTGTGTGAC      5520

GCAGACAACC TTGTCTCGTG ATTTGCGG                                        5548
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(2) INFORMATION FOR SEQ ID NO: 110:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 3132 base pairs

804
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(B) TYPE: nucleic acid
(C) STRANDEDNESS: double
(D) TOPOLOGY: linear
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(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 110:

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TACCCGGTAG TCTTAGCAGA CACATCTAGC TCTGAAGATG CTTTAAACAT CTCTGATAAA        60

GAAAAAGTAG CAGAAAATAA AGAGAAACAT GAAAATATCC ATAGTGCTAT GGAAACTTCA       120

CAGGATTTTA AAGAGAAGAA AACAGCAGTC ATTAAGGAAA AAGAAGTTGT TAGTAAAAAT       180

CCTGTGATAG ACAATAACAC TAGCAATGAA GAAGCAAAAA TCAAAGAAGA AAATTCCAAT       240

AAATCCCAAG GAGATTATAC GGACTCATTT GTGAATAAAA ACACAGAAAA TCCCAAAAAA       300

GAAGATAAAG TTGTCTATAT TGCTGAATTT AAAGATAAAG AATCTGGAGA AAAAGCAATC       360

AAGGAACTAT CCAGTCTTAA GAATACAAAA GTTTTATATA CTTATGATAG AATTTTTAAC       420

GGTAGTGCCA TAGAAACAAC TCCAGATAAC TTGGACAAAA TTAAACAAAT AGAAGGTATT       480

TCATCGGTTG AAAGGGCACA AAAAGTCCAA CCCATGATGA ATCATGCCAG AAAGGAAATT       540

GGAGTTGAGG AAGCTATTGA TTACCTAAAG TCTATCAATG CTCCGTTTGG GAAAAATTTT       600

GATGGTAGAG GTATGGTCAT TTCAAATATC GATACTGGAA CAGATTATAG ACATAAGGCT       660

ATGAGAATCG ATGATGATGC CAAAGCCTCA ATGAGATTTA AAAAAGAAGA CTTAAAAGGC       720

ACTGATAAAA ATTATTGGTT GAGTGATAAA ATCCCTCATG CGTTCAATTA TTATAATGGT       780

GGCAAAATCA CTGTAGAAAA ATATGATGAT GGAAGGGATT ATTTTGACCC ACATGGGATG       840

CATATTGCAG GGATTCTTGC TGGAAATGAT ACTGAACAAG ACATCAAAAA CTTTAACGGC       900

ATAGATGGAA TTGCACCTAA TGCACAAATT TTCTCTTACA AAATGTATTC TGACGCAGGA       960

TCTGGGTTTG CGGGTGATGA AACAATGTTT CATGCTATTG AAGATTCTAT CAAACACAAC      1020

GTTGATGTTG TTTCGGTATC ATCTGGTTTT ACAGGAACAG GTCTTGTAGG TGAAAATAT       1080

TGGCAAGCTA TTCGGGCATT AAGAAAAGCA GGCATTCCAA TGGTTGTCGC TACGGGTAAC      1140

TATGCGACTT CTGCTTCAAG TTCTTCATGG GATTTAGTAG CAAATAATCA TCTGAAAATG      1200

ACCGACACTG GAAATGTAAC ACGAACTGCA GCACATGAAG ATGCGATAGC GGTCGCTTCT      1260

GCTAAAAATC AAACAGTTGA GTTTGATAAA GTTAACATAG GTGGAGAAAG TTTTAAATAC      1320

AGAAATATAG GGGCCTTTTT CGATAAGAGT AAAATCACAA CAAATGAAGA TGGAACAAAA      1380

GCTCCTAGTA AATTAAAATT TGTATATATA GGCAAGGGGC AAGACCAAGA TTTGATAGGT      1440

TTGGATCTTA GGGGCAAAAT TGCAGTAATG GATAGAATTT ATACAAAGGA TTTAAAAAAT      1500

GCTTTTAAAA AAGCTATGGA TAAGGGTGCA CGCGCCATTA TGGTTGTAAA TACTGTAAAT      1560
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805

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TACTACAATA GAGATAATTG GACAGAGCTT CCAGCTATGG GATATGAAGC GGATGAAGGT       1620

ACTAAAAGTC AAGTGTTTTC AATTTCAGGA GATGATGGTG TAAAGCTATG GAACATGATT       1680

AATCCTGATA AAAAAACTGA AGTCAAAAGA AATAATAAAG AAGATTTTAA AGATAAATTG       1740

GAGCAATACT ATCCAATTGA TATGGAAAGT TTTAATTCCA ACAAACCGAA TGTAGGTGAC       1800

GAAAAAGAGA TTGACTTTAA GTTTGCACCT GACACAGACA AAGAACTCTA TAAAGAAGAT       1860

ATCATCGTTC CAGCAGGATC TACATCTTGG GGGCCAAGAA TAGATTTACT TTTAAAACCC       1920

GATGTTTCAG CACCTGGTAA AAATATTAAA TCCACGCTTA ATGTTATTAA TGGCAAATCA       1980

ACTTATGGCT ATATGTCAGG AACTAGTATG GCGACTCCAA TCGTGGCAGC TTCTACTGTT       2040

TTGATTAGAC CGAAATTAAA GGAAATGCTT GAAAGACCTG TATTGAAAAA TCTTAAGGGA       2100

GATGACAAAA TAGATCTTAC AAGTCTTACA AAAATTGCCC TACAAAATAC TGCGCGACCT       2160

ATGATGGATG CAACTTCTTG GAAAGAAAAA AGTCAATACT TTGCATCACC TAGACAACAG       2220

GGAGCAGGCC TAATTAATGT GGCCAATGCT TTGAGAAATG AAGTTGTAGC AACTTTCAAA       2280

AACACTGATT CTAAAGGTTT GGTAAACTCA TATGGTTCCA TTTCTCTTAA AGAAATAAAA       2340

GGTGATAAAA AATACTTTAC AATCAAGCTT CACAATACAT CAAACAGACC TTTGACTTTT       2400

AAAGTTTCAG CATCAGCGAT AACTACAGAT TCTCTAACTG ACAGATTAAA ACTTGATGAA       2460

ACATATAAAG ATGAAAAATC TCCAGATGGT AAGCAAATTG TTCCAGAAAT TCACCCAGAA       2520

AAAGTCAAAG GAGCAAATAT CACATTTGAG CATGATACTT TCACTATAGG CGCAAATTCT       2580

AGCTTTGATT TGAATGCGGT TATAAATGTT GGAGAGGCCA AAAACAAAAA TAAATTTGTA       2640

GAATCATTTA TTCATTTTGA GTCAGTGGAA GCGATGGAAG CTCTAAACTC CAGCGGGAAG       2700

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CACGAACCAA TCCTTGATAA ATGGGCTTGG GAAGAAGGGT CAAGATCAAA AACACTGGGA       2820

GGTTATGATG ATGATGGTAA ACCGAAAATT CCAGGAACCT TAAATAAGGG AATTGGTGGA       2880

GAACATGGTA TAGATAAATT TAATCCAGCA GGAGTTATAC AAAATAGAAA AGATAAAAAT       2940

ACAACATCCC TGGATCAAAA TCCAGAATTA TTTGCTTTCA ATAACGAAGG GATCAACGCT       3000

CCATCATCAA GTGGTTCTAA GATTGCTAAC ATTTATCCTT TAGATTCAAA TGGAAATCCT       3060

CAAGATGCTC AACTTGAAAG AGGATTAACA CCTTCTCCAC TTGTATTAAG AAGTGCAGAA       3120

GAAGGATTGA TT                                                         3132
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(2) INFORMATION FOR SEQ ID NO: 111:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 14672 base pairs

806

(B) TYPE: nucleic acid
(C) STRANDEDNESS: double
(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 111:

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CGAGATTTCT TTAAATGAAC TACGTGAAAT CTACCCATCA TCCAGATCTG GATATTCTCT        60

CCTATCTATA AGTAAAGTTT TAGGAGATTT TAATATAAGT TCTCATGCTT TTAAAGCTTC       120

GGTAAGAGAT TTAAAACCGC TCAGTTTCCC ACTCATTTGC TTCTGGGAGA GTTCTCATTT       180

TATTATTCTT GAAAAAATTA GTAAAAACAA GTTTTATATT TTAGATCCTG CAAAAGGCAG       240

GCAGAGAATG TCAATAAGTG AATTTGAAAG GCATTATTCA AATATCATTT TAACATTTAA       300

AAAGTTAGAT AGCTTTATGT CTCGTAAAGA TAATAAGAAG TCGCCTGTTT TAAAGTATTT       360

TTTTAAGTAT AGGAATAAGC TAGGGATTTT ATTTTTTGTA ACAGCATTAT TGTATGTAAT       420

ACAATCATTA GTACCTATAG CTAATAGATA CATAATTGAC ACGAATTTCA AGGACGATTC       480

GTATTCGTCT AGAATGTTAT TTACTATATT ATTTATATTT ACTGTTTCAT TCTCACTAAT       540

GTATTTATTA AGACAGATAT ATGTTGCATC CTTAAAATAT ATAATGGATA AAGAGATTAG       600

CTATGATTTT ATGAAACATT TGATATATTT ACCTTACAGT TTTTATGAAA AACGTACTTT       660

AGGGGATATA CTTTTTAGAG CTAACTCTAT TGTTTATATA AGAGAAATAC TATCAAATAA       720

TTTTATAGCA GCTATACTTG ATTTGTTAAT GATTGTGGTT TATGCTGTGG TTTTATTTAG       780

CTTTTCTAAG TACATGGTAA TCTTTTTAAT ATCACTAAGT CTAGCTCTAT CTATTGTAAT       840

GTATCCAATC ATAAAAATCT CAAAAAATTT AATTGATAAA AATATAAAAG AAAAGGTTAA       900

TGTTCAAAAT ATTACTTCCG AAGTAATTTC TAAAAATAGT GATATTAAGC TAACTGGAGA       960

AGAGGAATTT TGGATTAACA AATGGGATAA TTTTAATACA AAACAGCTCA TCATAGGTCG      1020

AAAACTTGAT ATACATTTAT CAATTGTTAG TAGTATAACG AATGTTTTAC AAATTATTCT      1080

CCCTGTTTTG ACCCTTATTG TAGGTGTAAA TATAAAAACA TTCGAACAAT TGACGTTAGG      1140

ACAAATTGTA GCAATAAGTA CAGTCTCACC ATACTTTATT TCTCCTATAA TTTCTTTAAG      1200

TGATAACTAT ATACAATTAA TGTTATTAAA GGGATATTTT TTAAGAATAG AGGATGTGTT      1260

TAATACTAAA TCCGAATTAA TTCCAGAAAG AGTCAGTCAA GATATAAAAT TTGATAAAAA      1320

AATAGAATTA AAAGATATTT GGTATAAATA TGGATTATTT GATGATTATG TTTTGAAAGG      1380

AATAAATGTT ACTATTAAAA AAGGAGAAAC TGTTGCTATT GTTGGAGAAT CAGGTTCAGG      1440

TAAGAGTACA TTAGCTAAAA TTTTATTAGG TTTATTAGAA CCTAATATTG GTTCAATAGA      1500

AGTTGATGGA GTAGAAAAAG AAGAAATTGG TCAAACATTG TATAGAAAGA TTTTTGGAGC      1560
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807

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AGTGTTACAA AATTCAACCC TAAGTTATGG TACCTTAAGA GAGAATTTGA CATTTGGACA        1620

CTTTGTTTCA GATGAAGAAT TAATGACAAA TCTAAATTCA ATTGGTCTTA GCAATGTAGT        1680

TAAATCTTTA CCTCTTGGAT TAGAGACAAT CATCGCTGAA GAAGGTAATA ACTTTTCTGG        1740

AGGGCAGCAG CAAATGATAC TTTTAGCTCG TTGTCTTTTG TCGAAACCTT CGGTAGTTGT        1800

TTTGGACGAA GCAACAAGTA GTTTAGATAA TTTATCTCAA CAAATTACAA CTTCTTACTT        1860

AAGTGAAATC GGTACCACTA AGATTTTAAT TGCCCATCGA CTAGATACTA TCAAGTCTGC        1920

AGATAAGATC TTAGTAATGC ATAATGGTGA AATTGTAGAG ATTGGGACCC ATAGAGAACT        1980

TCTTGAACTA GGAGGCATTT ATAAGCAATT GTATTCAAAT AATTAGTTTT TGATTAAAAG        2040

GGTAAATTTA TGAAGATTAT GAAAAAAAAA TATTGGACTT TAGCGATATT ATTCTTTTGT        2100

TTGTTCAATA ATTCTGTTAC TGCTCAAGAA ATACCTAAAA ATCTTGATGG CAATATAACT        2160

CACACTCAGA CTAGCGAAAG TTTTTCTGAA TCTGATGAAA AACAGGTTGA CTATTCTAAT        2220

AAAAATCAAG AAGAAGTAGA CCAAAATAAA TTTCGTATTC AAATCGATAA GACAGAATTA        2280

TTTGTAACAA CAGATAAACA TTTAGAAAAA AACTGTTGTA AATTGGAACT TGAACCACAA        2340

ATAAATAACG ATATTGTTAA CTCTGAAAGT AATAATTTAC TAGGCGAAGA TAATTTAGAT        2400

AATAAAATTA AGGAAAATGT TTCTCATCTA GATAATAGAG GAGGAAATAT AGAGCATGAC        2460

AAAGATAACT TAGAATCGTC GATTGTAAGA AAATATGAAT GGGATATAGA TAAAGTTACT        2520

GGTGGAGGCG AAAGTTATAA ATTATATTCT AAAAGTAATT CTAAAGTTTC AATTGCTATT        2580

TTAGATTCAG GAGTCGATTT ACAAAATACT GGATTACTGA AAAATCTTTC AAATCACTCA        2640

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TTATTGAAAC TTATTAGTTC ACGCAAAAAA GTAAGAAAAC CAGGATTAGT AGTTGATGTT        3120

CCAAGTTATT TCTCATCTAC AATTTCGGTC GGAGGCATAG ATCGCTTAGG TAATTTATCA        3180

GATTTTAGCA ATAAAGGGGA TTCTGATGCA ATATATGCGC CTGCAGGCTC AACATTATCT        3240

CTTTCAGAAT TAGGACTTAA TAACTTTATT AATGCAGAAA AATATAAAGA AGATTGGATT        3300
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                                        808
TTTTCGGCAA CACTAGGAGG ATATACGTAT CTTTATGGAA ACTCATTTGC TGCTCCTAAA    3360

GTTTCTGGTG CGATTGCAAT GATTATTGAT AAATACAAAT TAAAAGATCA GCCCTATAAT    3420

TATATGTTTG TAAAAAAATT CTGGAAGAAA CATTACCAGT AAAAAAATGGT ATAAAAGTGT    3480

TAAATATACC AAACGTATTG AGATATGATT TGAATATGTT ACAATTAGAA TATAAAAATG    3540

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CATTGTTATA ACACCCCAAT CAACTGGTCC ACAGTCCATT TTGTTTTGGA TAGACGCAGT    4140

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CCAATTATAA ATCAAGTGAT TTTTTCCGTC ACGAATTGGG CTACCTCTTC CAGAACTTTG    4860

GCTTAATTGA AAACCAAAGT ATTGAAGAAA ACCTTAAGCT AGGTCTCATT GGTCAAAAGT    4920

TGAGTCGGTC GGAACAGCGG TTGAGGCAGA AGCAGGCTTT AGAACAGGTC GGCCTGGTTT    4980

ATCTTGACCT AGATAAGCGC ATCTTTGAGT TATCGGGCGG AGAATCGCAA CGGGTTGCCT    5040

TGGCAAAAAT TATCTTAAAG AATCCACCCT TTATTCTGGC AGATGAGCCA ACAGCTTCAA    5100
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809

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CGATGGATCA TCTGAAATAA AAATCCTTGT TTTTAATTGC ACGATGAGTT ACTGAAATAT      5280

TATCATGAAT CAAGAATTGG AGTTAATTTA GAATTGTACT TAATTTAGAA TTGTACTTTA      5340

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AAAATCTTAA TAATTGAAAG TTTGGTAGAT GATATTTTGC AATTTTCTCT CAGAATCAAT      5520

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TGTTATTTTG AGGAAGATAT TGTGAAAGTC AAAGATGATG ATAAAGTTGA GTGGAATTTG      5640

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CTTCCTCTAC TGGAGGATTA AGGTATTCTT CTTCGTTGAC AGCATGTGGT TCAAGGTTAC      6840
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810

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CCTGGAAGGA AGCCGCTGAC AAGAAACTGT TTGTTTCAAG TGAGGCTTTG GTAATTCCCA        7020

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CACGCGCTAC TTGGCCCCCA ACTTCGACAC GCATACGAGC TGTAAATGGA ACGACATATT        7380

CACCTTCGCC AGTTTCACCC TTAACAAAGA CTTTCTTGGT ACGAGTTGAT GCATCTTCTT        7440

CGATAGCAGT AACTTGTCCT TTAACCTCTG TAATAACCGC TTCCCCTTTA GGATTGCGGG        7500

CTTCAAAGAT TTCTTGGACA CGAGGAAGAC CCTGAGTGAT ATCGGTATTT GAGGCAACCC        7560

CACCTGTGTG GAAGGTACGC ATTGTAAGCT GTGTACCAGG TTCCCCGATA GATTGGGCAG        7620

CGATTGTACC AACTGCTTCA CCAACTTCAA CCGCATCACC AGTCGCCAAG TTGATACCGT        7680

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CAATAATCAC TGCACCAGTT TCTGGATGTT TAACAGTTTT CTTAGTGTAA CGACCGTTGA        7860

GACGCTCTTC GAGAGACTCG ATCATCTCTT TTCCTTCTGC GATAGAACGG ATCAAGAGAC        7920

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TATTTCCAAG GTTTTTCTTC TTGAATGGAG GGTTGAGCTC AAGATTGCTG ATAGCTTCCT        8580

TGATATCTCC ACCAAGTGGC AAGAAGTATT TAGCTGGAAC ACCTTCTGTC AAGTTGGCAT        8640
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811

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CAACTGTTGT AAGCAAGACC TTATGTCTTT GCTCTTCTGT CCAAGGCTTG TTGAGGCTGT      8760

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ATGAACGGAC TTTACTTGGA GAAGCTAGGG TGATTTGCAT ACTTTTAAAA CGATTTACAT     10380
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812

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CAACCACTAT TTCTTCCCTT TCTATTCTAA GTGAACTGCT TATTCTTGTT CAGCAGCTTC     10440

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GTCCGACTTG TAAGTCAAGA TTTCTTGAAG GACATTTGAC GCACCGTAGG CTTCAAGAGC     10800

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ACGTCCATCG TAAAGGATCG TTTTGGCATC GCTATCCATA CCTGCTTCTT TAACAGTTGA     11040

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AGGATTAATC AATGGCACAG CCTGACGTTG CATATTGGCT CCCATGAGGG CACGGTTGGA     12120

GTCATCGTTT TCCAAGAAAG GAATACATGC TGTCGCAACG GCAACTACCT GTTTTGGTGA     12180
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813

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AACGTCCATG TAGTCAACAA TATTAGCTGG ATACTCTTGG TTGACCCCTT GGTGACGTCC    12240

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TTGGTCCATG AACTGTGACA ACTGTGATGA ACCAAAGAAT TCTTTAACTG CAGCTGTTAC    12660

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CGTATATTTT GGTTCCTTGA TTTCATATCC AACAAATTCC AACTCCATTG TGTCTGTGAA    13860

GTTTGAAATT GGCAATACAT CTTCAAACAC TTCCTTAAGA CCGTGGTCTA GGAAAGCTTT    13920
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814

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GAATGAGTCA GTTTGAATTT CAATCAAATT TGGTAAGTCA AGAACTTCTT TGATTCTTGA      13980

AAAACTACGA CGGGTACGAT GTTTCCCGTA TTGAACGTCA TGTCCTGCCA AGATGATTCT      14040

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AACCCCTTAT CACCGTGTCC TCTTGACGAA TTTTCAGAAT CTTTAAGCCT CTGTTACAAA      14160

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CCATATTATA CCCTATTTAG CTAGATTTTT CAAGGGGTTT CAGTAGGTTT TTGGTAAATT      14340

TTTTCCCATA GAAAACTTGG CATCACATTC GAATCACGCT ATGGTACAAA AAACTGAAAA      14400

AACTATTGAC TGAAAATCAT TTTCAAGGTA TAATAATAAA CGTTAAGGCG GTATAGCCAA      14460

GTGGTAAGGC ACGGCTCTGC AAAAGCTTGA TCGTCGGTTC AAATCCGTCT ACCGCCTTCT      14520

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TTTCCCTCGA ATAAATACGT ATAACTTTAA AAACTTTTGG AGCGAGTTTG TGGCAGAGTT      14640

CTTTCCATGG CATAATTCCC TTTTGAAATC AG                                    14672
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(2) INFORMATION FOR SEQ ID NO: 112:

        (i) SEQUENCE CHARACTERISTICS:
            (A) LENGTH: 7902 base pairs
            (B) TYPE: nucleic acid
            (C) STRANDEDNESS: double
            (D) TOPOLOGY: linear


        (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 112:

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TTTTCATAGC CATTGGTAAA GAGAATTTGG GAACCAAGAA TGGTATCTAA GGCCAGGATA       120

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TAAAGTAGGA TGGCATTTGG TCCTAAAACC ATGAGTCCAA AACTCAGTGG AATGATAAAG       240

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ATGGCTGTCA GAGGGAGAAA GAGTGGTTTA AAATCACTTA GGTGAATTTT AACAAGTTTG       540

ATGTCTCTTT TAATCCAAAA ATAACTAATC AGGTAGTTAA TCAGCGTCGA TAAACTCATC       600

ACAAGTGTAT AGACAACAAT ATCGTGTTCA TTTTTAACAA ATAAGAAAAT AGAGACCAGC       660
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815

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ATCAGGATAC GGATGAAGGC AGTTTTGTAA AAGAGAAAAC TGTAATTTTC CAGAGCTTCA      720

TTGACCCATT CGATTGAAAA AATCTGGGCA ATGAGTTGAA TCCCCATAAC AAGGTAGACC      780

TTTTTGACGA TTGGATTATC AGTAAAGAAG AGAGGATAGG CTAGGATATA GACAGCAGTG      840

GTCAAAATCG TACAAGCGAT GCACAAATAA AAAAGACTAG AAAAGGTTCT GTTAAGATCT      900

TTTTTGTTAT CCTTGACATT ACTGATAGCC CTTAAACCGT AGTTATAGAC ACCATAAGTT      960

GCAAAGGGCA AGAAAAATGA CAAAATAGTG TCGACTGAGT TGAAGTAACC ATAGTCAGTT     1020

CGGTCCAAGA CACGCGCGAC ATAGGTTCCA GTTAGGATGG GAAAAATAAT ATTCAAGACA     1080

CGAATTCCCA TGTAAGATAG AGCATTTAAT TTTATACTTT TCATTCAATT TACCTCGTTT     1140

TTCATTATAT CATAAAGTTA GCTAATAAGA AATGAAGGGC AGTAAGTCAA GTAATCACTT     1200

TGAAGTTTCA AATCTTAAGT TTTAAGTTTT CTTTAAGGAA AGTATATTAT TCTGAAGGAC     1260

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TGGACTAGTT TCTTTGAATA ATAGAACTGC ATAATTCTCC TATTCTAGAA GGGGAGGACC     1380

AGTATTTCTT TTATGATAGG ACTAGATTGT GGTATAATAG AGAGAATAAG TTTTTTTAGT     1440

AAGACAAAGG AGAAAATAGA TGATTTATGC AGGAATTCTT GCCGGTGGAA CTGGCACACG     1500

CATGGGGATC AGTAACTTGC CAAAACAATT TTTAGAGCTA GGTGATCGAC CTATTTTGAT     1560

TCATACAATT GAAAAATTTG TCTTGGAGCC AAGTATTGAA AAAATTGTAG TTGGTGTTCA     1620

TGGAGACTGG GTTTCTCATG CAGAAGATCT TGTAGATAAA TATCTTCCTC TTTATAAGGA     1680

ACGTATCATC ATTACAAAGG GTGGTGCTGA CCGCAATACA AGTATTAAGA ACATCATTGA     1740

AGCCATTGAT GCTTATCGTC CGCTTACTCC AGAGGATATC GTTGTTACCC ACGATTCTGT     1800

TCGTCCATTT ATTACACTTC GCATGATTCA GGACAATATC CAACTTGCCC AAAATCATGA     1860

CGCAGTGGAC ACAGTGGTAG AAGCGGTTGA TACTATCGTT GAAAGTACCA ATGGTCAATT     1920

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TTGCAAGGAC TTCATGGACC TTTATGGATC TCTTTCTGAT GAAGAGAAGG AAATCTTGAC     2040

AGATGCATGT AAAATCTTTG TGATCAAAGG AAAAGATGTG GCTTTGGCCA AAGGTGAATA     2100

CTCAAATCTG AAGATTACAA CCGTAACAGA TTTGAAGATT GCAAAAAGTA TGATTGAGAA     2160

AGACTAGTAA AATGATTAAT CAAATTTATC AACTAACTAA GCCTAAGTTT ATCAATGTCA     2220

AATATCAGGA AGAGGCTATT GACCAAGAGA ATCATATCCT TATCCGTCCC AACTACATGG     2280

CTGTCTGTCA TGCGGATCAG CGTTACTATC AGGGAAAACG TGATCCCAAG ATTTTGAATA     2340

AAAAGCTTCC AATGGCAATG ATTCACGAGT CATGTGGAAC CGTCATTTCT GACCCGACCG     2400
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816

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ATGAAGAATT CTATGAAAAC TACATGACAG GGACCCATTT CTTGTCTAGT GGATTTGATG    2520

GCTTTATGAG AGAGTTTGTT TCTCTCCCTA AAGATCGTGT GGTGGCTTAT GATGCTATTG    2580

AAGATACGGT TGCAGCCATT ACAGAGTTTG TCAGTGTGGG CATGCACGCT ATGAATCGTC    2640

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CTTTTGTGGT TGCCAATATT ATCAACTATA CTTTGCCAGA AGCAGAGATT GTGGTTATTG    2760

GTCGTCATTG GGAAAAGTTG GAACTCTTCT CATTTGCCAA AGAATGCTAT ATTACGGATA    2820

ATATTCCTGA AGATTTGGCC TTTGACCATG CTTTTGAATG TTGTGGTGGT GATGGTACTG    2880

GACCAGCTAT TAATGACTTG ATTCGCTACA TTCGTCCTCA GGGAACGATT CTCATGATGG    2940

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ATCGAATCTG CGATTACGCT TGATTCAACG TCAATCAAGA CCAAGTTCGA CAAAAATTACT    3540

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TGGAGTCTAT GGACTGTCTA TAAGGAAGAG CAAGGTGAAG ATTTTGGTGA CTATGGTGTG    4020

AATCGTTACC AAAGAGCTAT TAAAGGTTTG GCTTCTTATG GAGGTTCAGA TGAAAAGTAA    4080

AAACGGAGTT CCTTTTGGCC TTCTCTCAGG TATTTTCTGG GGCTTGGGTC TAACGGTTAG    4140

TGCTTATATC TTTTCGATTT TTACAGATTT GTCACCCTTT GTGGTGGCTG CAACTCATGA    4200
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817

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GCCGTAATCC AGCCGTTTTT ATGGAACGTT ATTTTCAGAT AGACGATGCG CATTTGTCGA      5940
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818

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ATGACCATCT GGTTCTAAGT GAATATGGAC CTGGTGAACA ACCTCTGAAA TTTCATTTTC      6360

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CAAAGCAGTG CTTTGAGCAA CCTGTGGCTA GCTTCCTAGT TTGCGCTTTG ATTTTCATTG      6900

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TTCGTTGATA GAATTTAGAA ATAAAATATA TGAAGAATTA GAACTTTCCA GAAGTGATTT      7560

AGCGATTTTA CTATGTGCCA TGCTTATCGC CTCTATCGGA TTAAATATGG ATTCGACTCC      7620

CGTGATTATT GGAGCCATGT TAATCTCTCC TTTGATGACA CCTATTCTGG GAGTGGGGCT      7680

CTCTCTAGCT ATATTTGATT TTAAATTGTT AAGAAAATCT TTTAAAATAT TAGCTATTCA      7740
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819

AATTCTTGCC AGTCTAATAG CTTCAACACT TTATTTTTAT CTTTCTCCCA TTTCGTATGC          7800

TAGTTCGGAG ATTGTTGCTA GAACCTCTCC GACTATTTGG GATGTTCTCA TTGCTTTTGT          7860

AGGAGGGATA GCAGGTATCA TTGGTGCTAG GAAAAAAGAG AC                            7902

(2) INFORMATION FOR SEQ ID NO: 113:

     (i) SEQUENCE CHARACTERISTICS:
       (A) LENGTH: 18627 base pairs
       (B) TYPE: nucleic acid
       (C) STRANDEDNESS: double
       (D) TOPOLOGY: linear


     (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 113:

GAAGTTGAAA TGGCCAGCTG ATGAGCAATA TCGGTCATAG AAATCTTCTC AATCAACTTT          60

TGCGCAATTT TTTGGTTGAT AATACGAGGA ATTTGGTGAT TTTTCTTGAC GATAGAAGTT          120

TCAGCGACCA TCATTTTTGA ACAGTGATAG CACTTGAAAC GACGCTTTCT AAGTAGAATT          180

CTAGTAGGCA TACCAGTTGT CTCAAGGTAA GGAATCTTAG ACGGTTTTTG AAAGTCATAT          240

TTCTTCAATT GGTTCCGCA CTCAGGGCAA GATGGGGCGT CGTAGTCCAG TTTGGCGATG           300

ATTTCCTTGT GTGTATCTTT ATTGATGATG TCTAAAATCT GGATATTAGG GTCTTTAATG          360

TCTAGTAATT TTGTGATAAA ATGTAATTGT TCCATATGAA TCTTTCTAAT GAGTTGTTTG          420

GTCGCTTTTC ATTATAGGTC ATATGGGACT TTTTTTCTAC AATAAAATAG GCTCCATAAT          480

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CAAGGGATTT TTCTTTTGTC TCTGCTCCTT TTTTGATATA ATAGTTCTAT GTTAAAATCA         600

GAAAAACAAT CACGTTATCA AATGTTAAAT GAAGAATTGT CCTTCCTATT GGAAGGCGAA          660

ACCAATGTTT TGGCTAATCT TTCCAACGCC AGTGCTCTCA TAAAATCACG TTTTCCTAAT          720

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CTGGATCTGG ATTCTTCAGA GATTGAGGAT TACGATGCTA TGGATCGAGA TTATTTGGAA          1020

CAATTTGTCG CTATTTTGCT TGAAAAGACA GCATGGGACT TTACGATGTT TGAGGAAAAA          1080

TCTTAATGTA TCAAGCACTT TATCGAAAAT ATAGAAGTCA AAACTTCTCC CAGTTAGTTG          1140

GTCAAGAAGT TGTGGCTAAG ACTCTTAAAC AAGCGGTGGA GCAAGAGAAA ATAAGTCACG          1200

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                                        820
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ACAAGATTCC TGCTACTATT CTATCCCGTG TGCAACGTTT TGAGTTTAAA TCAATTAAGA        1620

CACAGGATAT TAAGGAACAT ATTCACTATA TCTTAGAAAA AGAAAATATC AGTTCTGAAC        1680

CAGAGGCTGT GGAAATCATT GCCAGACGGG CGGAAGGTGG AATGCGGGAC GCCTTGTCTA        1740

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821

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822

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GATGCTGAGC AAATCAGTCT CAACAATCCG ACTTGTGGGG ATGTCATCAA CCTCTCTGTC      6540
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823

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TAGGTATTAT CTTTACAGAT ACAGATTCCG CACTCAAGGA ATACCCAGAC TTATTTAAAC    7380

AATACTTTGC GAAGTTGGTA CCGCCGACAG ATAACAAGTT GGCAGCCCTC AACTCAGCAG    7440

TATGGTCGGG TGGAACTTTT ATCTACGTGC CAAAAGGTGT CAAGGTAGAT ATTCCACTTC    7500

AAACTTATTT CCGTATCAAT AACGAAAATA TAGGTCAGTT CGAACGTACC TTGATTATCG    7560

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ATAGCTTACA CGCTGCCATT GTAGAAATTT TTGCTTTGGA CGGAGCTTAT ATGCGTTATA    7680

CAACTATCCA AAACTGGTCT GATAACGTCT ATAACTTGGT AACAAAGCGT GCTAAGGCTC    7740

AAAAGGATGC CACTGTTGAG TGGATTGATG GAAACTTGGG TGCCAAAACG ACTATGAAAT    7800

ATCCATCTGT TTACCTTGAT GGAGAAGGAG CGCGTGGTAC CATGCTCTCT ATCGCCTTTG    7860

CTAATGCAGG GCAACACCAA GACACGGGTG CTAAGATGAT TCACAATGCT CCACATACCA    7920

GCTCGTCTAT TGTGTCTAAA TCCATCGCTA AAGGTGGAGG AAAGGTTGAC TACCGTGGAC    7980

AAGTCACCTT TAACAAGAAC TCTAAGAAAT CTGTTTCCCA CATTGAATGT GATACCATTA    8040

TCATGGATGA CTTGTCAGCA TCAGATACTA TTCCATTTAA TGAAATTCAC AACTCGCAAG    8100

TGGCTTTGGA ACACGAAGCC AAAGTATCTA AGATTTCAGA AGAGCAATTG TATTATCTCA    8160

TGAGCCGTGG ATTGTCAGAA TCTGAGGCAA CTGAAATGAT TGTCATGGGA TTTGTAGAAC    8220

CCTTTACAAA AGAACTTCCA ATGGAATACG CAGTTGAGCT GAACCGCTTG ATTAGCTATG    8280
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824

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AAATGGAGGG ATCAGTTGGA TAAAATTTGA TTTTATACTC TTCGAAAATC TCTTCAAACC       8340

ACGTCAGCAT CGCCTTACCG TATGTATGGT TwCTGAtTCG TCAGTTTCAT CTACAACCTC       8400

AAAACAGTGT TTTGAGCAAC tGCGGCTAGC TTCCTAGTTT GTTCTTTGAT TTTGAGTATT       8460

AGATTTACTC AAAATCAAGG ATTTTGAAGA TGAACTTGTA TCAAAAAATC GCGGTTTAAA       8520

ATCGCGATTT TTTATAATTT CTCGTTAACA AAGCGGACAA ACTGATTCCA CCAAACTTTT       8580

AAGAAGAAGG CTTTTTCAAT TTTCTTGTCT GCTACCATTT CGAAACTAGG GCGCTCTGTG       8640

GTGATGTAAC CTTGACCAAT CAAGTCCTTG TCTTCATAAG TCAAATGGCC AACCACTGTT       8700

CCAGCTTCAA GTGGTGCTGG GATTGCTTTG GAATCAGGTG TGAATTGAAC AGATTGGGAA       8760

GATTGATTCC CAACACGTTC GATTAGATAG ATATCCTCTG GAGCCACTGC AGTTACTGTA       8820

TCTTCTTTTC CATCTTGTAC AGGGGCTTTG CTATCTTGAT AGGCATCGCC TTGTTGAACG       8880

ATTTTGCGAA GTGTAAATGT AGAAGAAATA TAATCCATTA GGGAAGATGT AGCTGTAAAT       8940

CGAGCGTAAG GATTATTGTC TTGATGATCT GCATTTAAAA CAACTGTGAT GACTCTCATG       9000

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AGCCCATCAA AACCACCACG GTAAGCAGGC ATACCTTCTA ACATGTAGTT GGTTGAAGTG       9120

ATTGTCATCC CAGCAAAAGT AGAAGAAGGT TTTTTGGTGA TTTCTAAGAC TTGTGGGTAT       9180

TTTTTGATGA GGTTGCGAGC AACGATAGCG ACATCATAAG CACTAAGCTT ATTTTCCTCA       9240

TCTTTTTTAG AACCTGGGTA AATGTTATCC CCTAGAGTTT CATTGTTAAG ACCTGTCGTA       9300

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TTTGCCTCAA CAGCAATCGC ATGTTTAGCG GCAATGGTAA AATCTTGAGC AACAGCAGTA       9720

GAAGCACCCC CTAAAAGAGA GACAGTTAAC AAAGTTAAAA ATATTTTTTT CATAGTAGTC       9780

TTATTCTATC ATAAAGAAAA AAAATATTCT TGCTTTAATA ATTCATCTGT TAAGCTTTTT       9840

GAAAATATGG TAAAATAAAG TAAGGGAGGT AACTCATGTT TCGTAGAAAT AAATTATTTT       9900

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GCTTTTTTTA TTATTTGACA AACCCTATTG TTACTTTCTT AAATAAAGTC TGTAAACTCA      10080
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825

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ATTTGGATGT AGAAGCTACA ATTCAGCAGT TAAACTTATC CTATGTTGAT ATTCTTCAAA    10320

ATATCCTAAA TAGCGTATCA AATAGTGTGG GGAGCGTCTT GTCAGCTCTT ATCAGTACTG    10380

TTTTGATTTT GATTATGACT CCAGTTTTTT TGGTTTATTT CTTATTAGAT GGACATAAAT    10440

TCTTGCCCAT GCTTGAAAGA ACGATTCTAA AGAGGGATCG CTTGCATATT GCAGGCTTAT    10500

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ATAAAAATCG AAAAAACCAG TGGAATTCTG TGTCAGGGTA AGTTCCACTG GTTTTCATAG    11160

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TTGAGTTATG TGTCGAGGGG CTGTTAAAAT AATACATAAC CTATGGTTGT AGACAAATAT    11820
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826

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TTTGCATTCC TTGGTAAAAC GTTGTTAAAT CAACGTTTTT TATTTTTATC TTTGGTATTC    11940

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827

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AGGTGAATTT GTCAAATCAA AAGACGTAGT AGAAGCCTTC AAATGGGGAG TGGCTTGCGG    13860

AACGGCAACT ACCTTCTCAG ATGACTTGGC AACGGCGGAA TTTATTAAAG AAACATATGG    13920

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CTAGATTTGC AGGCAACTGA AAAAACAGCT GTCATCGACG AGATGATTAA AAATTTGACA    14040

GACCACGGTT ATGTAACAGA TTTTGAAACA TTTAAAGAAG GAATTTTGGC GCGTGAAGCT    14100

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ACAGGATTTG TTATGCTAGC TGTGAATATC CCAATGGCTG CAATCAACAC TGCTATGAAT    15360
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828

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ACGCTTGCAG CAACTGTTTC TTCAGGTGGT TCTGTAGCCA TGGCAGCAGT TATGGCTGGA    15540

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AGTCAAGCCG GCTGTTGGTG TAAGGGTCAA CCGCATTTCC AATCTATCAG ATGACCTCGC    17100

TCTAGCCTTG GCTGCCAAAG ATGTCCGGAT TGAAGCACCA ATCCCTGGGA AATCCCTAAT    17160
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829

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CGGAATTGAA GTGCCCAACT CCGATATTGC CACTGTATCT TTCCGAGAAC TATGGGAACA    17220

ATCGCAAACG AAAGCAGAAA ATTTCTTGGA AATTCCTTTA GGGAAGGCTG TTAATGGAAC    17280

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GGATTCCTTT TGGATTTCTT TGACAATGGT TGTCGTCTGG CTTGTCGTAG GTTCTTTTTT    18600

AATATTTTTG TTATTATCCA AGGCGTT                                        18627
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(2) INFORMATION FOR SEQ ID NO: 114:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 2560 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear

830

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 114:

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TAAAATACGT TACCTTGCTT CTGCACGTTC AGCAGGTAAG TCATTGAAAT TTAAAGATCA      60

AGATATTACA ATTGAAGAAA CGACTGAAAC AGCTTTTGAA GGAGTTGATA TTGCTCTCTT     120

TTCAGCAGGT AGTTCTACAT CAGCTAAGTA TGCACCATAC GCAGTAAAAG CTGGCGTGGT     180

AGTAGTAGAT AATACATCTT ATTTCCGTCA AAATCCAGAT GTTCCTTTGG TTGTTCCAGA     240

GGTCAATGCT CATGCACTTG ATGCTCACAA CGGAATCATT GCCTGCCCTA ATTGTTCAAC     300

AATTCAAATG ATGGTGGCTC TTGAGCCGGT TCGCCAAAAA TGGGGCTTGG ACCGTATCAT     360

TGTTTCAACT TATCAAGCCG TTTCAGGTGC TGGTATGGGA GCAATTCTTG AGACACAACG     420

TGAACTTCGT GAAGTCTTGA ATGATGGTGT GAAACCACGT GATTTGCATG CGGAAATCTT     480

GCCTTCAGGT GGTGACAAGA AACATTATCC TATCGCCTTT AACGCTCTTC CACAAATTGA     540

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TGCTTGGAAC TCAGTTCAGA TTGCTGAAAC TCTTCATGAA CGTGGATTGG TTCGTCCAAC     960

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CTTTGAAATA GAGAGGTGTT TTCGTGTCTT ATCAAGATTT AAAAAAATGT AAAATCATTA    1080

CAGCCTTTAT TACCCCCTTC CATGAGGATG GTTCCATTAA CTTTGATGCT ATTCCAGCCT    1140

TGATTGAGCA TTTATTGGCC CATCATACGG ATGGAATTCT TCTCGCAGGA ACGACTGCTG    1200

AGAGTCCAAC TTTGACCCAC GATGAGGAGT TGGAGTTGTT TGCGGCTGTA CAAAAGGTTG    1260

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AGTTTGTCAA AGAAGTAGCG GAATTTGGTG GTTTCGCAGC TGGGCTTGCT ATTGTTCCTT    1380

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CTGACCTACC AATTATTATC TATAACATTC CAGGGCGTGT AGTTGTCGAA TTGACTCCAG    1500

AAACCATGCT TCGCTTGGCT GACCATCCAA ATATTATCGG TGTCAAAGAA TGTACTAGCT    1560

TGGCTAATAT GGCTTACTTG ATTGAGCACA AGCCTGAAGA GTTCTTGATT TATACAGGTG    1620

AGGATGGAGA TGCTTTCCAT GCCATGAACC TTGGGGCGGA TGGGGTTATT TCTGTTGCCT    1680
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831

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CTCATACAAA TGGGGATGAA ATGCACGAGA TGTTTACTGC GATTGCAGAA AGCGATATGA      1740

AGAAAGCCGC AGCAATTCAG CGTAAATTCA TTCCTAAGGT TAATGCTCTC TTCTCTTATC      1800

CAAGTCCTGC TCCAGTTAAG GCAATTCTTA ACTATATGGG ATTTGAAGCT GGACCCACTC      1860

GTCTACCTCT TGTTCCAGCA CCAGAAGAAG ATGCCAAACG CATTATCAAG GTTGTCGTAG      1920

ATGGCGACTA CGAAGCAACT AAGGCAACTG TAACAGGGGT CTTAAGACCA GATTACTAAT      1980

AAAGACAATA AAATCCGGCT CTTTGTCAAC TGTAGTGGGT TGAAGTCAGC TAAGCTCGAG      2040

AAAGGACAAA TTTTGTCCTT TCTTTTTTGA TATTCAGAGC GATAAAAATC CGTTTTTTGA      2100

AGTTTTCAAA GTTCCGAAAA CCAAAGGCAT TGCGCTTGAT AAGTTTGATG AGATTATTGG      2160

TCGCTTCCAA TTTGGCGTTT GAATAGGGTA GTTGAAGGGT GTTGACGATT TTCTTTTTGT      2220

CCTTTAGAAA GGTTTTAAAG ACAGTCTGAA AAATAGGATG AACCTGCTTC AGATTGTCCT      2280

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TATTGGTTAA GTGCATACGA AAAGTAGGAC GATAAAATCG CTTATCACTC AGTTTACGGC      2460

TATCCTGTTG AATGAGTTTC CAGTAGCGCT TGATAGCCTT GTATTCGGGA TTTTCGATGA      2520

AACTGATTCA TGATTTGGAC ACGCACACGA CTCATAGCAC                            2560
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(2) INFORMATION FOR SEQ ID NO: 115:

     (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 11303 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear


     (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 115:

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TATTGGATTT CCCTTGCAAT CAGTTTATGG GACAAGCACC CGGCAGCGCA GAGGAAATCA        60

ACGCCTTCTG TAGCCTACAT TTTCAAACCA CCTTCCCACG TTTTGCCAAG ATTAAGGTCA       120

ACGGTAAGGA AGCAGACCCT CTCTATGTCT GGTTACAAGA CCAGAAATCC GGCCCACTAG       180

GAAAACGAGT CGAATGGAAT TTCGCTAAGT TTCTCATCGG TCGAGATGGG CAAGTCTTTG       240

AACGCTTTTC TTCAAAAACA GACCCAAAAC AAATTGAAGA GGCGATACAA ACTCTACTAT       300

AATTCACAAT CTCACTATGA TTAGGTTTCC TTTAACCTGA TGAATAGTGA GATTTTTTGA       360

TGGGCTTTGA CTTAAATAGA AAAACACCCC ATGATATGAA ACATGAAGTG TTGTAAAGTC       420

TATGTTGTAG GTGCTTATTT CACAATTTCA ATGTGACCAG TGATAACGAA TACCATACAG       480
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832

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AATCTTCATA TACACTAAAC AAATGACTTT CTAATTATTT CAATTAGTTT TGGCTAGTAA      540

ATATCATTTC CAACAAACGC CCTCTCAATT CCTTATCCTG ATGATGCAAG ATATTCATTA      600

AGTCATGAGA GTTTTTCGCA TTGATGAATT GATTTAACAA TCTATCTTTT AATTCATATG      660

GAAGAGAAGC TGTCTTTAGT AGTCTAAAAA CTTCGTCATT TAAAGATGTC CTTTTATTAT      720

CTTTCCATTC AAATTTAGCT GTATCATTCT TATTTGGCAA TTCAATTATA GACACATTCG      780

TTCCTTTAAA ATGAATTCTA TGTTTTCTAT TGCTTGGAAC GATACTAGAA TCTCCTTGTA      840

ATGCTAACTC TACCATTCCC ATTTCCCAAT CGATTGATAA TCTTGTTTTA TATCTTTGAC      900

CATTTTGATC TTCAAGCATT TCAAAAGAAT GTTGTTTTCC TGGGAATACA TACCAATCTA      960

CAACTTCAGG TAAATCAACA CCCATACCTA TCTCAGAACC AACCAAGGGA ATGATTGCAC     1020

CACTTTTTGC AAACACAGGC GTAGTCGAGA TGTCCCTATA AACACTTAAC TTCACACCAC     1080

CTGTGTATTT TTTCTCTGAA AAGAAGTCAT ACCATTCACC TTCAGGGAAC CATACATCTA     1140

CTTTTGCAGA TTGGAATGTC AAATCCATCT TTTCTACAAT GGGAGCCACC ATCAGTTCTG     1200

TTCCAAAAAA GTATTGGTTT GGAACATTAT AGCTCTCATC ATTCTCTGGA TAGAAATAAT     1260

AGATTGGACT GATTAATGGG GCACCTTCCT CATGTGTCTG TACATTCATG GTATATAGAT     1320

AGGGAATCAT CTGATGTCTC AAACGAAGGT ATTTCTTCAT AATCTTAGAT GTTGTTTCTG     1380

AAAAAAACCA AGGTTCTTTA CTATTAAAAG GACTTCTAGA ACTATGTAAT CGAGTAATCG     1440

GACTAAAAAC ACCAAACTGT AGCCATCTAG TTTGTAGCTC TTCGTCATAA TCCCCCAACA     1500

TATGTCCACC GATATCATGA CTCCACCAAC TATAACCGAT ATTAGATGCT GTCGCTGTAA     1560

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TACAACTATC CTGATAGTGA TAATGGTTTA AAAGCCAAAG TGGATCTAGC ATACCTTGTG     1740

TCCCTTGTTG CCAGTCAATC CACCAAAAAT CTACTCCCTG CTTTTCTAGT TCATAATGAA     1800

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CTAGTTCTAC ATTTAACCCC AACCGTTTTG CGATTTGAGG ATAAGCTTCT TCATAAGCCC     1920

GTATCCCATC AGCAGGATGG ACATTTAAGG AGAGTTTTAG CTTTCTATCA TGAAGTTGTT     1980

GCAATAACTG TTCTGGATTT GGTATTAAGT TTCTATTCCA ACTATATCCT GTCCAGCCAC     2040

TTCCAAAGCG AGCTGGAATG TCAGTTATAT GCCAATCCAT ATCTAACACA CCGATAGATA     2100

ATGGAATTTT CTCTGTTTCA AATCTGTCTA TTAAATCCAA GTATTCATCC GACGTATAAG     2160

GCCAATATCT ACTCCACCAA TTGCCTAAAG CATATCTTGG CAACAAGGGT GTTGAACCAG     2220

TCAAATGGTA AAAATCTCTG ATTGCTCCTC TATAATCATG CCCATAGGCA AAGAAATACA     2280
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833

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GGTCAATTTG ATTTTCTCTC TCAATATAAC CAGATTGTTC ATCCCAAATA AATCCTTGAG      2340

AATCATCCAA TAAGGCTATA CCATTTCGGC TAATAATTCC ATCTTCTAAC GAGATTGCTC      2400

CATCTGCCTT ATCCAGAGTC CGAGCTGTTC CTTTTAACGT TTCAATAGAT TCACCAAAAT      2460

ACCAGCGACT ACCATATACG GCAAAATTTC CTTTTAATTC TATAAATAAA TTTTCGGCGT      2520

TAAATTCTCC TTTATTAAAG TGCAGATGAA AAATAGTCCGT CATAATATCT AGTACGTTTG     2580

ATGTCTCGAT ATAATCTAAC GAAATTTGGC CAAAATCTCT ATTATAGATA AGTTGTGTCG      2640

TTCTATCCTC AAAACTTCCA GTTTGAGAGT ATTCTAACCT TACTAGCTTG TCTGTTAATA      2700

CAGAGATTCG ATAAAACTCT CCCTTAAAAA TTTTCAATTT GTTTTCCTCC TTTTATGGTA      2760

GCATAAAAAC AGAACGCACC ATTTTTGATG CGTTTTTCAT TATTCTGAAT GCAATGTTCT      2820

ATCTGTTATA TCTATGACAA ATAATAGTCA ATTGAAAAAA TGCAGTGGAC AAAAATATCTT     2880

TTAACAAACC AAGAGTTTAT TAAAGAGTTA TCACTTTTCA ACTTTCTAA GCTTATGCAG       2940

TTGTGAAACA AACTACTTTT AAACTATTAA CTAAGATAGG ATTGATAAAT AATTTCAAAC      3000

TCTTACTAGC AATCATACGA TATTCAAGCT CACGTGCTTT TTTCCTTCCT GCTTATTTCT      3060

TAGAACTGAA GAACCCGGAT CGGTATATAA ATTATCCGGA TCAACATAGT CATAAGATTC      3120

ATAACAGTTG CGCTTCATTA AGTCATCCCC AGAGCAAGAG CTTCATCTCG TAATTTTTCA      3180

ACATCACTAA CCGTAGGTCG CCATCCTTCA ATCATATTTG TACTTAAAGC ATACCAAACA      3240

CTCTTAAAAA CGGATCGGTT TTCAAAAGCT ATTCCCATGA TTGTCATCTT TTCTTTATCT      3300

ATATCTAAGG ACATATGCTA CCTCCTTTAG ATACATTATA CCATGTTTCT CTGTAGCTTT      3360

TAAAAATTTT ATTTTGTTTG TCATATCTAA GTTTTCAGCA CGCTTATCCT ATTTTATAAG      3420

CCTCAAACCC AAATATAAAA CGCATTCTTT TTGCTTTTTT ACTATTGTAT CGTATTCTAC      3480

GATAACATAC TTTACTTTAT TGTTTTTTTA AATAACAGCA GTTCCCTGTT TATCAACTAT      3540

TCGAACTACT TTCTATTTTG CTTCATACCC TACATAGCGA AAAAATATGA AAAAGCAGAG      3600

AAGAATATCT TAAAAAGACC TCTTCACTGC TAATATTAAC ACTCATTATT TAAACTATAT      3660

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TTTTGATCAT ATACACGGAT GAATGGAAGA TAGACTAGGA ATGCTGCAAA TGCACATACT      3780

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GTTGGCCATG GAACCTGTGC GATAATTGGC TTAATAAAGT TTAGAGAATT CGCTACGTAA      3900

TAAATAGTAG CAGTAACCAT TGGTGCTAAA ATAAATGGTA TAGCCAAGGC TGGATTATAG     3960

ATAATAGGTA ATCCAAAAAT TAATGGTTCA TTAATATTAA ATAAGGCTGG AACTACAGAT     4020
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834

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GCTCGTCCTA TTGCTTTAAG CTGTTCAGAT TTAGAGGCAA AAGCAATATA TAAACATAGT    4080

CCTAAAGTTG CACCAGAACC ACCTGCAATT ACAAACATAT TAGAAAATTC ACCTGCAACA    4140

GCGAAGTGCC CGCCAGCAGC ATTTTCAGCC ATGTTAGCAA GAGCAATTGG ACTAACAAAT    4200

GCAAAAACAA TGTTCGCACC GTGGATACCT ACAATCCAAA GTAGTTGAGT CAATAGATAA    4260

ATAATCATTA AACCAATCCA CGAATTAGTC AGATTGGATA CAAAACCAAA TGGAATTGCA    4320

ATGACTTTAA AAATATCTGT TCCCATTGCT ACAAGAAGAC CGTTGATAAA GATAACAACA    4380

AATGCAACAA CAAATCCCGG AACCAAAGCG GTAAATCCAC GAGAAACTCC TTCTGGAACA    4440

GCTTCAGGCA TTTTAATAAC CCAATTATGT TTAACACACA TACGATAAAT AAGAACAGTC    4500

ACAATTGCCA TAATGATTGC GGTAAAAATC CCTGTTGTCC CAAAACGTGC GACTACATTT    4560

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TATGCAAGTG ATAGAACGAA ATAAAGAGAT AGAGAACCCA TAGTCGCATA GTTTGCAACC    4800

ATGTAAAGTG ATGTGAATTT ATCAAATGAA GCAGAGAAAA TATCTGCCAC AATTGGCCAA    4860

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GGTACAGCAG CCATACCTGC AGCCGTGATA GCACGTACTA CTTTAAACTG AGCAAGTTTG    4980

CCCATTGGTC CCATAACATG GTTTTCAAGA AAACCAAACA ACCCGTTTTG TTGATCCATA    5040

AATAGACCTC CTTAATAAAA CATAATAATT TTTACTTTCT AAAGACTAGT TTCAAATACA    5100

AATTATACTA GATCAGGATT ATAAACTAAG TGAGTTCTTT TCCAATTGGA CAAATTGTTG    5160

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AAGCATTTGT ATTCTAACAA ACATTAGTGT TATTCCCAAC TTTTCTTTCC TATTTCCATA    5400

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GAGTGCTATT GAATAACGTA GAAGAAGATA TCGATTGAAA AAAGTATTAG TTAGAGCCAT    5580

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TATAACAACA CATATTTAGT TAACTTTCTT ATAAAGAGCT AACATTTCCT TTGCTACTTC    5700

TAATAATGTC ATAGTGGTCA TTAAATGATC TTGAGCATGT ACCATGATAA TTTCAATTTT    5760

AATTTCCACT CCACTTGCGT ATTCTTGCAA GAGTTTGGTT TGTGCATGAT GCGCTTCAAG    5820
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835

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AATTATCTCA TTTGATTGAT TTAATTTACT TTCTGCATCA TCAAAACTAC CTTCTCTCAT    5880

TTTTGCAAAT GCTTCATGTA TTTCTGACCT TGCATTTCCC GAATGCAGGA TAATTTCAAA    5940

TGCTGCAACC TGCAGTTCCT CTTGATTCAT ATAAACCTCC TATTTTATCT TCTCAAATAT    6000

GTTAATAAAA TCTTCAAAGT TATTGCAAGA TATTAGCTGA TTTTGCAATT CATCATTCTC    6060

TGTCAGAGAG ACTATCTTTT TAGTCACAGT TGCCAAACCT TCGTTCCCAT ATATTGATGG    6120

AGATAGAAGA AATACTAGCT GGACATGTGA ACTTTGATTA TCCCAGAGTA ACGAATCTTT    6180

ACAAATTGCA ACCGAAACCT TTCCCTCTGT ACCAAAGGGC TGAATAGGAT GCGGAACTGC    6240

AATTTTTTCA GAAAAAACAA CTGAACTTAA TTCTTCGCGC TGTTTAATTC CATAAAGTAA    6300

AGATTGTTCA AACTCATTTG ATTCACCAAC AGATAAACTC TCAACCATCT TTTCAAGTAA    6360

ATTTACCTTG TCTGATTCAG TACATATTAA AAAGTTTTCT TTACTAAAAT ACTGTCTAAA    6420

GCCGTTGTTT TCAAATTTGT TAATCTTTGA TGATTGTACA TAACTAGAAA CTTGCATCTA    6480

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TGCAAGAATT TCTCTAGTCA TAAAGAATAT ATCACTATAA TTCTGTTTAA TTTCATCTAC    6900

CAAAGGGTTA TTTAAGGTAA TCCGGCTTTC TAAACGTACT TGTAGTGTCA TTAGATGAGT    6960

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TGGAAATTCC TGATTTGTTA CTTCTCTTAC TTTAGAAAGA ATTCTTTGGG CAACCTTTCT    7200

CTCTATTGCA TCATCAGTCA TCTGACAGTC TATATTTTTT ATTTCAAATC CGGATTTTAA    7260

ACGAATCACA GACAATGCTA TGTGAACTAC TAAATTCTGT AGTACAAAAT CAGATAGTTT    7320

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TTGATCAAAA AAGTTAAATT TTACATAGCA ATGTATTGTT TTAAAAAATT GATTCTCTAG    7440

GAAATAATTT ATGATAAAAC GTCGTTTATC ACGTTCCTCG CCTGAGACAT AAACTCCTTT    7500

ATTCGCCCTA CTCTCAATGG ACAAATTATA CTCTGATAAC ATCACTCGTA TCTTTCTGAA    7560
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836

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ATCATGAGAT AATGTTGAAC GACTAACGTA AAGTTCATCA GCTAAATCAT CAAAAAGAAC      7620

TGGAACTTGC TCAAATAATA ATTTATTTAA GATAAATACT AAACGATCAT CACCTTTTGA      7680

AACCGCAGTT TTCGTATAGT CTTCTTCCAG TTCATAAGTT TGTCTAAACT CCTGGTAAGC      7740

GCCTTGATTC TCAAAAAATA TTTGATACCC TTGACCTTGT TTTGAAATCA ACCGGACTCC      7800

TTGAATAATC ATTGTCTTCT CAATTAATTT CAGTACATTA CGGACAGTTC TATCTGAACA      7860

GGATAAATAT TCTGCCAGTT CTTTGCTTGT AACAAAACGT TCCTTATTTT TTATTAAAAA      7920

TTGAAGGATA TCTTTCTCTT TAATGTTTAA CACATTCATT CCCTCCTAAA ACGTATGTTT      7980

TCATATATTG AAGCATATTA TACACTTAAA TCAGTTTATA TCAAACTCAA AACAATTTAT      8040

CTTAACCTAA ATATTTATTG ACATTTCATG TGTTCATCAA ATATTCTCAA GAATCAAATT      8100

AGCCATTTTT TCAATTCCCA TTGGAATAGG AATATAGGCT TGAGGAGGTA TTTGTACAAC      8160

TGGTTTTCCT GCTTTAGAAC CAGCCTCTTC AAATTGCTTA AAGTACATTT TTGTTTGAGG      8220

ACTGACAAGA TACAAATCAA AAGCTGCTGC TGCGATAGCT TTCCCTCCTT CAGTAGCACT      8280

AATAGCATCA ACTACAATAT CTTTCCCTTT TCCTTTTAGA AACTCTGTTG TTTTCTGTGC      8340

CATAAGTGAT GAAGACATTC CTGCTGCACA AATAATTAAA GCTTTTGCCA TAATATTTTC      8400

TCCTTTTCTT AAATCCAATC AAAGCTGTGC TAAGTTGGCT TATTTGTTAT CTATTTTTAT      8460

TATAAAATAA AGCGTTTCCA ATGACAATTC CCTCATTTTC CTAAATGATA TGGAAAAAAA      8520

TTATTTATAC TTCAATTTAT AAAATAAAAT TATTCCTGAG AGTAGAAATG AAACACTATT      8580

TGCTAAAATC AAAGGCAAGT CTCCTATACG AATACCATGA GCAAGCCACA ATGCAATACC      8640

AATAACTTGC ATAACATACA TACCTAGAGC AATAGATCCT GTGTCCTTTG TCTTAACTAC      8700

ACGAAAAACT TGTGGTAAAA ATGCAAATGT TGTTAAAATT GCTGCAATAC TTCCAATCAT      8760

ATGTCACCTC AATATGCTAA ACAAACTGAG AATAATCTCA GTTTGTTTAT ACTATTCTAC      8820

TGATTCACCG TTAGATGAAA TAACTTCCTT ATACCAGCCA AAAGATTTTT TCGGGGAACG      8880

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CATTTCACCG GTACCAGCTG AAACCAAATC AATACATCCC CATGGAGTAT AACCCATTAA      9000

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ATTTTCAACA ATAAAGAGTG GTAAGTGATA GTGGTCTGTA AACCAATTTA ACGCATAACG      9180

CAAACCTTCT GGATCAATTT GCCACTCCCA TTCAGAAGCC TTAACATAAT TATTTTTCAC      9240

TAAATCTTCT GTTTCAAGAT AATCAAAATA AGGATTATTT TCACGATGAG AGTCGATAGC      9300

AAAGGACATA TAGTAACTGA AACCAATGTA ATCTACAGTC CCACCAAGTA AATCTTCTTT      9360
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837

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ATCCTGGGCA GTAAAATCAA CTGAAATACC TTTTCGTTCC CAATACTTGA AAATATGCTC    9420

AGGATATTTA CCTAAAACAT GCACATCAGC AAAATAATAA CGCTTCTGCA TAGCTTTCAT    9480

TGCCATTAAG ATATCCTTAG GATTGCAAGT AACTGGATAA ATTGGACACA TCGCAATCAT    9540

ACAACCTATT TGAAAATCTG GATTAATCTC ATGACCAATT TTTACAGCTC GTGCAGAAGC    9600

AACTAATTCG TAATGTGCTG CTTGATACAT AATTGCTTCT CTATTATCAC CTTCCTCATA    9660

TACAATACCT GAGTTAGTAA ATGGTGCAAA ATCTTCCTGA TAATTCGCTT GATTATTGAT    9720

TTCATTGAAA GTCATCCAAT ATTTAACCTT ATCTTTGTAA CGTTTAAATA CGACTTCTGC    9780

AAAACGAGCA AAGAAATCAA TCAATTTCCT ATTTTTCCAA CCACCATATT CGGTCACTAA    9840

GTGATAAGGC ATTTCAAAAT GAGATAGAGT GATGACAGGT TCAATACCAT TCTTTAAGCA    9900

TTCATCAAAA AGATTATCAT AAAACTGTAA TCCTTCTTCA TTCGGCTCTA ACTCATCACC    9960

TTTTGGAAAG ATACGTGTCC ATGCAATAGA GGTACGGAAG CACTTGAATC CCATTTCAGC   10020

AAAAAGTGCT ATATCTTCTT TATAACGGTG ATAAAAATCT ATCGCCTCAT GATTTGGATA   10080

ATATTTACCC TCTAAAACTC CCAAAGTAAT TTCACGAGCT ACTCCATGAC GACCAGCAGT   10140

CATAACATCA GCAACACTAA TTCCCTTGCC ACCTTCTTGC CATCCACCTT CAAGTTGATG   10200

AGCAGCAACA GCACCACCCC ATAAAAATCC ATCTTTAAAA GTAGTCATCT TTTTTCCTCC   10260

TGACTTTGAT ACTCTTATTA TAAACCTTAA ACCAAAAGAT GAAAACGCAT TCTTTTTCCT   10320

TATTGTTAAG GAAAGAAGTA ATTTTTAATG GAAATAGAAC AATATCTTCT TGTATTCTCG   10380

TAATGATATC TTTACGATTT TCAATACTTT CAAACTACAA AAACTCTCAC AATAATTCTA   10440

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ACGTTCAACT TGCATCTGCA AGTGATATTT TTTTCTTAAA TCTAAGATTT TCTGCATTGT   10560

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AGTTCCCTCT TTTTCAATTG GTAAAAAATA TTCGTATTTC AAGTTACCTT TTTGATTTCT   10680

AATTTCTTTA ACAAGGCCAC TATCAAGCAT TTCTCTTGCA AACTTTATTG CACTATCTCC   10740

ATCACCTTTA TAATATACAT GAATAGTCAA TGTCATCTTA TATCCTCCAA AATCATCCTT   10800

CAATTTTAAA AAAACAAGTT TAGATGAGGA TCTAAACTTG TTTTTTATGA ACTAATTATC   10860

TAACGTTTCG CCATTACTTT CAATCACTTC TTTATACCAA TAAAATGATT TTTTCTTATA   10920

GCGATTTATA GTCAATTGAA ACAAGAGCAG GACAAAAGAG CCTCATAAAA GGTATTGCAA   10980

CTTGGTAATA CCTTTTTGAG GTGCTTTTTG ATATGAGCCC ATGTTTTCTC AATAGGATTG   11040

TACTCAGGTG AGTAGGGAGG AAGAGGTAAA AGTTTATACC CAAACTCTTC ACACAAGAGT   11100
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838

TCTAGCTTCC CCATTCTATG GAATCTTGCA TTATCCATAA TAATAACCGA TGGTGTGGTT        11160

AATGTTGGTA AGAGAAACTT CTGAAACCAA GCTTCAAAAA AGTCGCTCGT CATCGTCTCT        11220

TCGTAAGTCA TTGGAGCGAT TAACTCACCA TTTGTTAGAC CTGCAACCAA AGAAATCCTC        11280

TGATATCTTC TTCCAGATAC TTT                                               11303

(2) INFORMATION FOR SEQ ID NO: 116:

      (i) SEQUENCE CHARACTERISTICS:
          (A) LENGTH: 3112 base pairs
          (B) TYPE: nucleic acid
          (C) STRANDEDNESS: double
          (D) TOPOLOGY: linear


      (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 116:

CCTTAGATTT CCACTTGCCA GAGGAATTGA TTGCCCAAAC GCCCCTTGAA AAACGTGATG          60

CCTCCAAACT CCTCATCGTC AACCGTGAGA CAGGAGAAAT GCAAGATAAA CATTTCCACT         120

CTATTATTGA TATGCTGGAA CCTGGTGATG CCCTTGTCAT GAACGACACC CGAGTTCTCC         180

CTGCCCGCCT CTATGGTCAA AAAGTGGAGA CAGGAGGTCA TGTGGAACTT CTCCTCCTTA         240

AGAACACTAG TGGAGACGAG TGGGAAGTTC TGGCTAAACC TGCCAAACGC CTCAAGGTCG         300

GTACTCGTAT CAGCTTTGGT GATGGCCGCC TCAGCGCTGT CGTTACAGAA GAATTGACCC         360

ACGGGGGACG CATTGTCCGC TTTGAATACC AAGGAATTTT CCTAGAAGTC TTGGAAAGTC         420

TGGGAGAAAT GCCTCTGCCA CCTTATATCC ACGAAAAATT AGATGACCGT GAACGTTATC         480

AAACCGTCTA CGCCAAGGAA AGTGGCTCTG CTGCAGCACC GACTGCTGGT CTTCACTTCA         540

CCAAAGAACT GCTGGCAGAA ATCCAAGCTA AGGGTGTTCA TCTAGTCTAT CTGACTCTCC         600

ATGTCGGACT CGGAACCTTT AGACCTGTTT CTGTGGATAA TCTGGACGAA CACGAAATGC         660

ACTCAGAGTT CTATCAACTT TCTGAGGAAG CTGCTGCCAC CCTTCGCTCT GTCAAAAAAA         720

ATGGTGGTCG TGTCATCGCT GTCGGAACCA CTTCTATCCG CACCTTGGAA ACTATTGGTT         780

CCAAGTTTGA TGGGCAAATC CAAGCAGATT CTGGTTGGAC CAATATCTTT ATCAAACCTG         840

GGTATGAGTG GAAGGTCGTG GATGCCTTCT CAACCAACTT CCACCTGCCA AAATCAACTC         900

TGGTCATGTT GGTTTCTGCC TTTGCAGGCC GTGAATTAGT CTTAGATGCC TACCACCATT         960

CCATCCAAGA ACACTACCGC TTCTTCAGTT TTGGTGACGC CATGTTTATT TATTGAGAAA        1020

GAATTTCTCT AAATCTTCTA ATACCAATAA ATCGCTAAGA TATTATTTCA AAGAACATCT        1080

ACAATTGAAA CTCTAGCTAG CTGTAGAAGA GGCCTAGTAC ATTGAAATTA AAATGCTTCC        1140

CCCTAGCTTC GAAAATATTG CCATAGATTG CGTTGACTCT CCAAATTGAT TCATCTATAT        1200

839

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TTTATTTCAG CTTCCTATAC TTTCTTCGCT GTTTGTAAAT CAAAATGCAA GACACATGAG    1260

TAGCACCATA TTTGTTACTC TTATCTGTCC TCTCAAGAGA CTATTATGAG TTATTTCAGA    1320

ATCATTCACT ACTTTGACCC TGACTCTCCT TAGTCTCAAA ATCAAAGACT TATACTCTTC    1380

AAAAATCTCT TCAAACCGCG TCAACGTCAC CTTGGATTAT ATATGTGatC TGaCTTCGTC    1440

AGTTCTATCT ACAACCTCAA AGCAGTACTT TGAGCAACCT GCGACTAGTT TTCTAGTTTG    1500

CTCTTTGATT TTCATTGAGT ATTAAACAAA AAGTGAACAA ATCTGAATTC TAATGTACAG    1560

AAGACTAGGC TTGTTCACTT TTTTATAGTC GCTATAAGAT GACCTTATCT ATAGCTTTTT    1620

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CTCACCCGAT GTATTTACAT AATACCATTT ACCACCAACT TGGAACCATT GATTGACTTT    1800

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CCCTCTCCTT ATACGTCTTT TTACCATCTC TTTAGTAATT TGACGAGAAG TAGTTTCTTC    2100

AATTGTTCCA TCACGTTCAT CTACAGTATA GATTGTAGTA AGAGTAATTT ACCAATTTCT    2160

CCTACTTCTT CTACTTCTTG ACTTTTATCA AGAGTTGGGC CATCGAGATA TTCTGTTTCG    2220

ATTGGAATTT CTTGGACAAG AACTTGGGGC TTGGTTCTTT TTTTAACAAC TCTTGTTTGA    2280

GAGTCTTTTT TTTGACTTAA AGTACTCTCA GTTACTTGTC CACTCTTTCC ATCTACATTA    2340

TAAGTTATCG TTGTAACTGT TTTCCCATTC TTTCCTAGAG TAATCTCTTG CTCCTGTCCT    2400

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TGTTCGGTAA CATAACCAGT CTCTGGATTA ACATCGTAGG TCCTTGTCGT AGTTACATAG    2580

CCATCCTCTC CATCAATTGT AACAGGATTT TCACTACGGT CTTTTGTTTC ATCTTTTTCA    2640

TAACGAATTC GCGTACTTGA AATTTTCTTG GTTACTACCT TAGGTTTAGT CGCTACTTTT    2700

ACAATAATAT CCCCATTGTC AGCGTCATCA TACTCTATTC CCTCTTCTTT ATCTCTAGTA    2760

TCATCTCTGA CATATTGAAT CCCATCAGCA GCATGAACAA AACTTGTATT CAGATTCCTC    2820

CTAAAAATAA AGTTAGCCCG ATTACCGCAG AACCAAAAAT CTTTCCGAGT TTACGTATTG    2880

CATAGCGCTT ATTAGTATTA GATTTTGCCA TTACATCCTA CTTCTAGTAT AGCATCTTTT    2940
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                                        840
CTATCAAACG TTAAACAATA TACGTTATAT ATAAAATAGA CTTAGAATGA TATATTGATT       3000

ATTGAACTAA CACTTTAACT ATATCGTAAT CAATCTCATA TATAAAGGAT TGCAGACATC       3060

TTATCTAAAT ACATGCGAAT ATATTTAGAT ACAAACATTC CAACTTGATA AT              3112
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(2) INFORMATION FOR SEQ ID NO: 117:

     (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 4327 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear


     (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 117:

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CCCAAAAATC TCTTCAAACC ACGTCAGCTT CGCCTTGCCG TAGTATGGTT ACTGACTTCG        60

TCAGTTCTAT CCACAACCTC AAAACAGTGT TTTGAGCATC ATGCgGCTAG CTTCTTAGTT       120

TGCTCTTTGA TTTTCATTGA GTATAAAAAC AGATGAGTTT CTGTTTTCTT TTTATGGACT       180

ATAAATGTTC AGCTGAAACT ACTTTCAAGG ACATTATTAT ATAAAAGAAT TTTTTGAAAC       240

TAAAATCTAC TATATTACAC TATATTGAAA GCGTTTTAAA AATGAGGTAT AATAAATTTA       300

CTAACGCTTA TAAAAAGTGA TAGAATCTAT TTTTATGTAT ATTTAAAGAT AGATTGCTGT       360

AAAAATAGTA GTAGCTATGC GAAATAACAG ATAGAGAGAA GGGATTGAAG CTTAGAAAAG       420

GGGAATAATA TGATATTTAA GGCATTCAAG ACAAAAAAGC AGAGAAAAAG ACAAGTTGAA       480

CTACTTTTGA CAGTTTTTTT CGACAGTTTT CTGATTGATT TATTTCTTCA CTTATTTGGG       540

ATTGTCCCCT TTAAGCTGGA TAAGATTCTG ATTGTGAGCT TGATTATATT TCCCATTATT       600

TCTACAAGTA TTTATGCTTA TGAAAAGCTA TTTGAAAAAG TGTTCGATAA GGATTGAGCA       660

GGAAGTATGG TGTAAATAGC ATAGGCTGAT GTCCATCATT TGCTTATAAA GAGATATTTT       720

AGTTTAATTG CAGCGGTGTC CTGGTAGATA AACTAGATTG GCAGGAGTCT GATTGGAGAA       780

AGGAGAGGGG AAAATTGGCA CCAATTTGAG ATAGTTTGTT TAGTTCATTT TTGTCATTTA       840

AATGAACTGT AGTAAAAGAA AGTTAATAAA AGACAAACTA AGTGCATTTT CTGGAGTAAA       900

TGTCTTATTT CAGAAATCGG GATATAGATA TAGAGAGGAT CAGTATGAAT CGGAGTGTTC       960

AAGAACGTAA GTGTCGTTAT AGCATTAGGA AACTATCGGT AGGAGCGGTT TCTATGATTG      1020

TAGGAGCAGT GGTATTTGGA ACGTCTCCTG TTTTAGCTCA AGAAGGGGCA AGTGAGCAAC      1080

CTCTGGCAAA TGAAACTCAA CTTTCGGGGG AGAGCTCAAC CCTAACTGAT ACAGAAAAGA      1140

GCCAGCCTTC TTCAGAGACT GAACTTTCTG GCAATAAGCA AGAACAAGAA AGGAAAGATA      1200

AGCAAGAAGA AAAAATTCCA AGAGATTACT ATGCACGAGA TTTGGAAAAT GTCGAAACAG      1260
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841

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TGATAGAAAA AGAAGATGTT GAAACCAATG CTTCAAATGG TCAGAGAGTT GATTTATCAA      1320

GTGAACTAGA TAAACTAAAG AAACTTGAAA ACGCAACAGT TCACATGGAG TTTAAGCCAG      1380

ATGCCAAGGC CCCAGCATTC TATAATCTCT TTTCTGTGTC AAGTGCTACT AAAAAAGATG      1440

AGTACTTCAC TATGGCAGTT TACAATAATA CTGCTACTCT AGAGGGGCGT GGTTCGGATG      1500

GGAAACAGTT TTACAATAAT TACAACGATG CACCCTTAAA AGTTAAACCA GGTCAGTGGA      1560

ATTCTGTGAC TTTCACAGTT GAAAAACCGA CAGCAGAACT ACCTAAAGGC CGAGTGCGCC      1620

TCTACGTAAA CGGGGTATTA TCTCGAACAA GTCTGAGATC TGGCAATTTC ATTAAAGATA      1680

TGCCAGATGT AACGCATGTG CAAATCGGAG CAACCAAGCG TGCCAACAAT ACGTTTGGG       1740

GGTCAAATCT ACAGATTCGG AATCTCACTG TGTATAATCG TGCTTTAACA CCAGAAGAGG      1800

TACAAAAACG TAGTCAACTT TTTAAACGCT CAGATTTAGA AAAAAAACTA CCTGAAGGAG      1860

CGGCTTTAAC AGAGAAAACG GACATATTCG AAAGCGGGCG TAACGGTAAC CCAAATAAAG      1920

ATGGAATCAA GAGTTATCGT ATTCCAGCAC TTCTCAAGAC AGATAAAGGA ACTTTGATCG      1980

CAGGTGCAGA TGAACGCCGT CTCCATTCGA GTGACTGGGG TGATATCGGT ATGGTCATCA      2040

GACGTAGTGA AGATAATGGT AAAACTTGGG GTGACCGAGT AACCATTACC AACTTACGTG      2100

ACAATCCAAA AGCTTCTGAC CCATCGATCG GTTCACCAGT GAATATCGAT ATGGTGTTGG      2160

TTCAAGATCC TGAAACCAAA CGAATCTTTT CTATCTATGA CATGTTCCCA GAAGGGAAGG      2220

GAATCTTTGG AATGTCTTCA CAAAAAGAAG AAGCCTACAA AAAAATCGAT GGAAAAACCT      2280

ATCAAATCCT CTACCGTGAA GGAGAAAAGG GAGCTTATAC CATTCGAGAA AATGGTACTG      2340

TCTATACACC AGATGGTAAG GCGACAGACT ATCGCGTTGT TGTAGATCCT GTTAAACCAG      2400

CCTATAGCGA CAAGGGTGAT CTATACAAGG GTGACCAATT ACTAGGAAAT ATCTACTTCA      2460

CAACAAACAA AACTTCTCCA TTTAGAATTG CCAAGGATAG CTATCTATGG ATGTCCTACA      2520

GTGATGACGA CGGGAAGACA TGGTCAGCTC CTCAAGATAT TACTCCGATG GTCAAAGCCG      2580

ATTGGATGAA ATTCTTGGGT GTAGGTCCTG GAACAGGAAT TGTACTTCGG AATGGGCCTC      2640

ACAAGGGACG GATTTTGATA CCGGTTTATA CGACTAATAA TGTATCTCAC TTAGATGGCT      2700

CGCAATCTTC TCGTGTCATC TATTCAGATG ATCATGGAAA AACTTGGCAT GCTGGAGAAG      2760

CGGTCAACGA TAACCGTCAG GTAGACGGTC AAAAGATCCA CTCTTCTACG ATGAACAATA      2820

GACGTGCGCA AAATACAGAA TCAACGGTGG TACAACTAAA CAATGGAGAT GTTAAACTCT      2880

TTATGCGTGG TTTGACTGGA GATCTTCAGG TTGCTACAAG TAAAGACGGA GGAGTGACTT      2940

GGGAGAAGGA TATCAAACGT TATCCACAGG TTAAAGATGT CTATGTTCAA ATGTCTGCTA      3000
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842

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TCCATACGAT GCACGAAGGA AAAGAATACA TCATCCTCAG TAATGCAGGT GGACCGAAAC   3060

GTGAAAATGG GATGGTCCAC TTGGCACGTG TCGAAGAAAA TGGTGAGTTG ACTTGGCTCA   3120

AACACAATCC AATTCAAAAA GGAGAGTTTG CCTATAATTC GCTCCAAGAA TTAGGAAATG   3180

GGGAGTATGG CATCTTGTAT GAACATACTG AAAAAGGACA AAATGCCTAT ACCCTATCAT   3240

TTAGAAAATT TAATTGGGAA TTTTTGAGCA AAAATCTGAT TTCTCCTACC GAAGCGAACT   3300

AGAGAGATGG GCAAAGGAGA GATGGGCAAA GGAGTTATTG GCTTGGAGTT CGACTCAGAA   3360

GTATTGGTCA ACAAGGCTCC AACCCTTCAA TTGGCAAATG GTAAAACAGC GACTTTCCTA   3420

ACCCAGTATG ATAGCAAGAC CTTGTTGTTT GCAGTAGATA AGGAAGATAT CGGACAGGAA   3480

ATTATTGGTA TAGCTAAAGG AAGCATCGAA AGTATGCATA ATCTTCCTGT AAATCTAGCA   3540

GGTGCCAGAG TTCCTGGCGG AGTAAATGGT AGCAAAGCAG CGGTGCATGA AGTTCCAGAA   3600

TTTACAGGGG GAGTTAATGG TACAGAGCCA GCTGTTCATG AAATCGCAGA GTATAAGGGA   3660

TCTGATTCGC TTGTAACTCT TACTACAAAA AAAGATTATA CTTACAAAGC TCCTCTTGCT   3720

CAGCAGGCAC TTCCTGAAAC AGGAAACAAG GAGAGTGACC TCCTAGCTTC ACTAGGACTA   3780

ACAGCTTTCT TCCTTGGTCT GTTTACGCTA GGGAAAAAGA GAGAACAATA AGAGAAGAAT   3840

TCTAAACATT TGATTTTGTA AAAATGGCTC TTTGTCAACT GTAGTGGGTT GAAGTCAGCT   3900

AAGCTCGAGA AAGGACAAAT TTTGTCCTTT CTTTTTTGAT ATTCAGAGCG ATAAAAATCC   3960

GTTTTTTGAA GTTTCAAAG TTCCGAAAAC CAAAGGCATT GCGCTTGATA AGTTTGATGA   4020

GATTATTGGT CGCTTCCAAT TTGGCGTTAG AATAGTGTAG TTGAAGGGCG TTGACGATTT   4080

TCTCTTTGTC CTTTAGAAAG GTTTTAAAGA CAGTCTGAAA AAGAGGATGA ACCTGCTTTA   4140

GATTGTCCTC AATGAGTCCG AAAAATTTCT CCGGTTCCTT ATTCTGAAAG TGAAACAGCA   4200

AGAGTTGATA GAGCTGATAG TGATGTTTCA AGTCTTGTGA ATAGCTCAAA AGCTTGTTTA   4260.

AAATCTCTTT ATTGGTTAAA TGCATACGAA AAGTAGGGCG ATAAAAATGT TTATCGCTGA   4320

GTTTACG                                                             4327
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(2) INFORMATION FOR SEQ ID NO: 118:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 3521 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear


    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 118:

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CTCTGGCCCT GCCACTCCAA CGTTTTGTCA GGGTGCTTTT TTCATAAAGG AGTTCTTATG     60
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843

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TTAGATATCA AACGTATTCG TACAGATTTT GAAGCTGTCG CAGAAAAATT AGCTACACGT        120

GGTGTAGATG CTGCTGTCTT GAATGAAATG AAAGAAATCG ATGCTAAACG TCGTAACATC        180

TTGGTCAAGG TTGAAACTCT CAAAGCAGAA CGTAACACAG TTTCTGCTGA GATTGCCCAA        240

GCTAAGCGCA ACAAGGAAAA TACAGATGAC AAGATTGCTG CCATGCAAAA TCTATCTGCT        300

GAGGTTAAAG CCTTGGATGC TGAATTGGCA GAAATCGATG CTAAATTGAC AGAATTTACA        360

ACGACTCTTC CAAATATCCC AGCTGACAGC GTTCCTGTTG GGGCTGACGA AGACGACAAT        420

GTGGAAGTTC GCCGTTGGGG TACTCCACGC GAGTTTGACT TCGAACCTAA AGCTCACTGG        480

GATCTCGGTG AAGACCTTGG TATCCTTGAC TGGGAACGCG GTGGTAAGGT AACAGGCGCT        540

CGCTTCCTCT TCTATAAAGG CCTCGGTGCT CGTTTGGAAC GTGCTATCTA CAACTTTATG        600

TTGGATGAAC ATGGAAAAGA AGGCTATACT GAAGTCATCA CACCTTACAT AGTCAACCAT        660

GATTCTATGT TTGGTACTGG TCAGTATCCA AAATTTAAGG AAGATACTTT TGAACTCAGC        720

GATACCAACT TTGTCTTGAT TCCAACTGCT GAAGTTCCTC TGACAAACTA CTACCGTGAT        780

GAAATCTTAG ACGGCAAAGA TCTTCCAATC TACTTCACTG CCATGAGTCC GTCATTCCGT        840

TCTGAGGCTG GTTCTGCCGG TCGTGATACG CGTGGCTTGA TCCGTTTGCA CCAATTCCAC        900

AAGGTTGAAA TGGTCAAATT TGCCAAACCA GAAGAATCTT ACGAAGAATT GGAAAAAATG        960

ACAGCCAACG CTGAAAACAT TCTTCAAAAA CTCAACCTTC CATACCGTGT CGTTGCTCTC       1020

TCTACTGGAG ATATGGGCTT CTCAGCTGCG AAGACTTACG ACTTGGAAGT GTGGATTCCA       1080

GCACAAAACA ATTACCGTGA AATCTCAAGC TGTTCAAACA CAGAAGATTT CCAAGCCCGT       1140

CGTGCCCAAA TCCGTTACCG TGATGAAGCA GATGGCAAGG TGAAACTCCT TCATACCTTG       1200

AACGGTTCTG GACTTGCAGT TGGACGTACA GTGGCTGCAA TTCTTGAAAA TTACCAAAAT       1260

GAAGATGGTT CTGTGACCAT CCCAGAAGCA CTTCGTCCAT ACATGGGTGG AGCTGAAGTC       1320

ATCAAACCAT AAAAAATAAG GTTTAGCTAT TTCTAGCTAG ACCTTTTTTC GTAACCAAAT       1380

CAGATAAGCA CCTAGTACAA AGAATAAAAT AGTTAGGCAT ATAATGGTTT CAGCCAATAC       1440

CAGGTAATCC AGAAATGGAA GTTTCAAAAT TCCCTGAGCC ATCTTGAGCG AGGTCGCTGT       1500

GATAATGGTT GGGAAGGTGA GGGCTGAGAA GGCTGGTTGA AAACCTTGTT TTAAAATGTT       1560

GGGCAGACGA GTTAAAACAA AGAAAAGAA GGATTGAGAA GCCAAAATCA TGACAATCAA        1620

GACCCAAGTC GGCAGGCTGG TTCCTCCTAC TCGAACTAGA GAAGCCAAGA GTAGAGAGAA       1680

AGGAGCACAG TAGATTCCTT CTTGTCCAAG CAAGGCTAGT GGGAGTGGAT GTTTCTTTAA       1740

ATCGCTATAA ATAAGGGGAT AGAGATAGAA GGTCAAGAGA AAACCAAAAC TCAAGGTCGC       1800
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844

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ATAGGCAATT TCGATAATAC CTACCAGAGG ATAGGTCAAG GCAGCCACTG CTATCCCCAC        1860

ATAGAGAACC GTCCAGCTTG GAGTGGCATG AACCCTCCGC CCTGGACAAG CAAACTTGAT        1920

GGTAAAACCA GCAATCAAGG TCAAATCCAA GAGAAATGAA AACCACCAAA TCCCTTGTGC        1980

TACCAAAGGA AGATAAGAGA ATACGCGAAA GACATAGGTC GATAAAATCA TCCCAGCCAT        2040

AGGAAAGGTT GCCATTCCTG ACAAAAGAGG GGGCTTGGTC AATTCTTGCT TGGTTTCTTT        2100

CCAATTAAAG AGATGCAGAA TTAGAAAGTA AATCCATAAA ACCAAACCAA TCAGACTAAA        2160

AAGATGGGAT AGAACCGGCA ACGTATCTAA AATAAGATTT CCAGCTCCTG CCAAACCTAG        2220

CAAACAACCT GAAAATACTA AGGGGAGTTT TTTCATCCTA ACCTCCAATA ATCATGTTAG        2280

TTTCAGTATA ACATAAAAGC GCTTAAATGA GGATTTAAAA AAACGAGTCC GCTTATTTCA        2340

GACTTCATTT TACTCAGATA TGAATTAGGC ATAAGGTTGC AATTCTGGAT TAATTGGTGT        2400

ATTAGCTAAG TTGTTGGCAT AGTTACAGAG GATTGCTAGG CTGACACCAA AAACCACATC        2460

CAAGGCATTT TGTTGAGTGT AGCCAGCTTC TAAAAACTCA GACAAGGCTT CATCTCCTAC        2520

ACGACCCTTG GTATTGATAA CTGCCAAGGT AAACTTAGCT AGGGTATCCA ATTTAGGATC        2580

TGTTTCAATT GGAGTACGAT TGCGAAGAGC TTGAATCAAG TCATCATTCA TCTGGATTTG        2640

TTTGATGGAA AAGGCTGTGT GACCTGCGAC ACAGAAGGCA CAACCATTGG TCACGGCTGC        2700

CGTGATTTGC ACCACTTCAC GCTCAACGGG TGTCAGGCTG TTGCGACGGT GGATAGATGA        2760

GACAATTTGG TAGGCTTCTA AAACAGTCGG GGCATTGGCC AAGAGACCGA TTAGGTTGGG        2820

AATATAGCCA TTGTTGTCTT TTTCTACTGT TTCAAGAATT TCTTTCACTT CTGCTGGTGC        2880

TGACTCTACT GTATGGATAG TAAATGTTGT CATAAGATAC CTCTTTTCTT ATTATTGACA        2940

CTAATATTAT TGGAAAATCT TATAAAATCC TGATTCCTAA GTTTATCTAA GATAAAGCTT        3000

TATTCTCTCA TAAGATTTTC GTTGTTATAT TAGTTTATCA CACTTCCAAT CACTTGTATA        3060

ATATATATTA TATATCAGGC TGATAAAAAT TATTTATAGG CAAAAAAATC ACACGAGCTG        3120

TGTGATTCCA TTATTTGTCA AAATACTTTT TAGTTTCAGC AATAACGACT GGCGACAAGA        3180

CCAAGAGGGC AATCAAGTTT GGCAGAGCCA TCAGGCGTT AACGATATCT GCGATAATCC        3240

AGACCATATC CAACTCGATA AATCCTCCTA ACAAGACCAT GAGCACAAAA ACCACACGGT        3300

AGAGCCAGAT AAAGCGAACC CCAAAGAGGA ACTCAAAACA GCGTTCTCCG TAATAGTTCC        3360

AACCTAGAAT CGTTGTAAAG GCAAAAAGTA CAAGGAAGAT GGTCAAGAGA GCAGGCCCAA        3420

AGTGTGAAAA GTTTGTTGAG AAAGCTGACT GAGTCAAGGC AACCCCATTC AAGTCACCGC        3480

TCCAAACTCC AGTTACCAAG ATGGTCAAAC CAGTTAGAGT A                            3521
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(2) INFORMATION FOR SEQ ID NO: 119:

845

(i) SEQUENCE CHARACTERISTICS:
    (A) LENGTH: 1968 base pairs
    (B) TYPE: nucleic acid
    (C) STRANDEDNESS: double
    (D) TOPOLOGY: linear


    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 119:

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AACCTGGGCA AGCAAGCTAA AAGCAATGGG ACCTGGAATC CTAATGGCAA CTGCCGCTGT      60

TGGAGGTTCC CACATTGTAT CCTCAACTCA AGCTGGCGGT TCTTACGGTT GGTCTCTACT     120

TCTCTTGGTC ATCTTAGCCA ATGTCTTTAA ATATCCATTT TTCCGTTTTG GTGCTGAATA     180

CACAGCTGAT ACTGGAAAGA CTTTGGTTGA AGGTTATGCC GAAAAAGGAA AACTCTATCT     240

CTGGATTTTC TTTATCCTCA ATGTCTTTTC GGCTATGGTC AACACGGCTG GTGTTGCCAT     300

TCTGTGCTCA GCTATCATCG CCAGTGCCTT CCCAATGATT GGACTTAGCA TTACTCAGTG     360

GTCCCTCATT CTCGTTGCAA TCATTTGGGC TATGCTACTC TTTGGAGGCT ACAAACTTTT     420

AGACGGCATG GTCAAATGGA TTATGTCTGC CTTAACCATT GCGACTGTTC TTGCAGTTAT     480

CATTGCGGCG GTCAAGCATC CAGAATACAG TTCTGATTTT GTCGAGAAGA CACCTTGGCA     540

AATGGCAGCT CTGCCCTTCA TCGTCTCCCT CCTAGGATGG ATGCCGGCTC CTATTGAAAT     600

TTCAGCCATC AATTCACTTT GGTCAGCTGA AAAGAGAAAG ACCGTCAACT TTAACACAGA     660

AGACGCTCTG TTTGACTTTA ACACTGGTTA TATTGGAACA GCTATCCTAG CCGTCTTCTT     720

TGTGGCACTG GGAGCACTGA TTCAGTATCC TACAGGGCAG GCGGTTGAAG CTGCTTCAGC     780

CAAATACATC TCTCAATTCG TGGGCATGTA TGCCTCTGTT CTTGGCGAAT GGTCCCGTTA     840

CTTGATTACC TTTATTGCCT TCCTCTGTAT CTTTGGAACA GTTATAACTG TTATCGATGG     900

CTATTCTCGC GTTAATCAGG AATCTCTCCG ACTGCTAATC AGTCAAAAAG AGGACAATCG     960

TAAATCTTTG AACATCTGGA TGACCATCAC TGCTATCATC GGTATCGTCA TTATCAAGTT    1020

CTTCGCTGGT CAGGTTTCAA CCATGCTCCG CTTTGCCATG ATTGGCTCTT TCCTGACAAC    1080

ACCTTTCTTT GCTCTTTTGA ATTACGCCTT GGTAACGCGT GAAAACAAAA ATCTTCCTTC    1140

TTGGCTCAAA CACCTTGCCA TTGCGGGATT GATTTTCCTC TTTGCTTCGC CATCTTCTTT    1200

ATCTACGCAC TCGCAATCGG AAAAGCAGGG TAAGGGACAA GCGCGAGATG AAGATAAGGT    1260

TTCATTTCAA GAGAAAATTC AGCAAATATT TCTATGATAA AAAGCATAAG AACAAGGTTT    1320

TGAAGACCTG AACTTATGCT TTTTTACGTT CTTAAAGACT GTTTATACTC AAAAAACAGT    1380

TGAACAACTT CAACCACCTC TTATAAGAAC TTTATACTAT TCGAGAATCT CTTCAAACCA    1440
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846

CGTCAGCTCT ATCTGCAACC TCAAAGCTGT GCTTTGAGCA ACCTGCGACT AGCTTCCTAG          1500

TTTGCTCTTT GATTTTCATT GAGTATTAAT TCTCCTTTTC CAACTCATAC AAATCTGCGA          1560

TAATAGCTGC GACATGTTTG ATATCTTCCA GCATGCCTCG CATTTCAAAG TCAGCCAATA          1620

CAGGGAAGCC AAAGCGTTGA CTGTATTGCT TGGCTGTTAG GCAGTATTGG TTATTAAAGT          1680

TACGATTTCC TGACCCAACC ACACCAAAAC ACTTACTAGC ATTGTTACCA TAGGCAATAA          1740

AATCTCCCAC CGGTGTCGTC AAAATCTCAA CATCTCCGTT ATCCACGCCA TTCCCACCTT          1800

CGAGATAGGT CGGCAAAAAA GCGACATAGG GATGGTCCAT TTCATAGAAA TTTTTGCCTT          1860

CCTTGACCAA ATCCTTGATA TGAATCTTTT GAACCTCAAT CCCTTTGTAC TGGGACAAGA          1920

GATAGTCTTT CAAGCGCGTC ACAAAACTTT CAGTGTTGCC ACTCAAGG                       1968

(2) INFORMATION FOR SEQ ID NO: 120:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 7172 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear


    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 120:

CCGCATTTTT TATCACTAGA CTCGAGACAT CTTTTGAGTG GCTCTTGCTC TCTGGTTTAA          60

TTTTCTTCCT TGCTCAAGGA CTCCTGCTAT TTCTCTTGGT CGTCCGACTC AAACATCAAT          120

TCGCTGAGAT TTATCCTCAA ATCAATAAAA AGATTCGCTT CTACTATTTA GGGGTTCTCA          180

CCATTGATTT TCTATTTTTT GTTCTCTTAG CCTTCATTAG TTCTCAGCGT TTTTCATCTC          240

TTATGCCAAT CATCACTGCT TGCCATTCTA CTTTTTATTA TATGACAGCT GACTACCTAA          300

GAGAAAACTA TCCAGACTTT TACGACAAAC ACATCTCTTT ATGGGAGTGT CTCTAAAGAA          360

AAGGAGGTTT TAGCATGAAA AAAATCATCT TCATCAAAAC CATTCAACTC CTTGTCATTG          420

ATGGAATCAT GCTGGCATTT TTGACATTTA AAAGGGGGCT TACTTGGGAC TGGATTTTGA          480

TTTATAGCGG TTGGCTCATT TTCTTTCATC CTGTGCTATT GACCTATCTT TCAAACCAAC          540

TTTGTGACCA CTTTAGTTAA CTCTATTCCC AGATTAGACC GAGATTCTGG CGTTTTGCTT          600

TACAAATTCT CCTATGGGAT AGCCTGATGA TTCTCTCCTT GGTGTCTTTA AGTGATATTC          660

CACTTTTCCT TCAGGGAACT CTCCTCATCC TAGGACATCT CATCCCTTCC TATCGCATCT          720

GCCAAAGCCT GAAAAGAGAC TTCCCCCAAG CATATCAAGA ACCGATTTCT TTTTGGAGTA          780

TTTTATGATA GATGAGAAAG ACCAAGCCGA CTGGGCTTGG TCTTTCTTAT CTCTTTTTAG          840

TATCTAGGAT AATGGTAACA GGTCCATTAT TAACCAGCTC AACCTGCATA TCTGCTCCAA          900

847

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AGATGCCTGT CTGAACGGGC ACTTCTTGCG CTAATTTTTG ATTGAAAGCA TCATAGAAGT     960
CTGATGCCAT ATCAGGTTTA GCTGCCCCTG TAAAGgCTGG ACGATTGCCT CTCTTAGTAT    1020
CCGCAAAGAG GGTAAACTGA GAAATAGAGA GGATTTCTCC TTCAATATCT TTGACAGACA    1080
GGTTCATCTT GCCTTCTGCG TCTGAAAAAA TCCGCATATT GACCAGTTTT CTCACAGCAT    1140
AGTCCAAATC TTCCTCTTGG TCCTCTGGTC CAACACCAAC CAGCAATAAA AGTCCCTGAT    1200
TGATTTTTCC CTGAATCTGG CCTTCTATAC TCACTTGGGC TTTTTTAACC CGTTGGATAA    1260
TGATTTTCAT AATAGCCTTT CTAGTAAGAG CTAGGACAAC TAGCCGTTGG TCCGTTTGAC    1320
AGAGTAAACT TCTGGCACAC TCTTAATTTT ATCGACAACC GTGGTCAGTG TAGAGAGGTT    1380
GGCAATACCG AAGgACACAT GGATATTAGC AAACTTCATA TCCTTGGTTG GTTGGGCATT    1440
GACCGTTGAA ATATTCTTGG TTGTATTTGA AAGAACTTGC AGTACATCGT TCAACAGTCC    1500
TGTACGGTTG AGACCGTAGA TATCGATATG GGCCATATAC TCCTTATTTG AGCTAGGGTA    1560
CTGGTCTTCC CATTCCACAT CAAGGAGACG TTGCTCGTAG TTTTCTTGGG CACGCAGGTT    1620
CATACAGTCC ACACGGTGAA TAGCCACACC ACGACCCTTG GTAATGTAGC CAACAATATC    1680
GTCACCAGGC ACGGGGTTAC AACACTTAGC AATCCGCACT AGGAGACCAG AAGCACCTTC    1740
AATAACCACT CCCCCCTCAT GCTTGACCTT GAGGGTTTCT TTATTTTCAA CCTTGACCTC    1800
GCCACCTTTG ACAAGCTCCT CTGCCTCAGC TTTGGCCTTG GCACGCTCTT CCTCACGGCG    1860
TTCCTTTTCA GTCAGACGGT TAAAGACGGT AATCGCACCG ATTTCCCCAA AACCAATGGC    1920
CGCAAAGAGG GAGTCTTCTG TCTTGTAACT GGTCTTTTGC AGAACTTGAT CCATGTGGCG    1980
CTTGTCCATA AATTTATTTG CCACATAGCC ATTTTCTTGG AACTGAGCCA TCAGCATCTC    2040
ACGACCCTTG TTGACAGACA ATTCCTTATC TTGGTTTTTA AAGAACTGGC GAATCTTATT    2100
GCGCGCCTTG CTAGTCTTGA CCATATTGAG CCAGTCACGG CTAGGTCCAA AGGAGTTCGG    2160
GTTGGCGATA ATTTCAACCT GATCCCCTGT CTTTAACTTG GTTGTCAGTG GAACCATGCG    2220
GCCATTGACC TTGGCACCAG TTGCTTTTTC ACCGACCTTG GTATGGATTT CGTAGGCAAA    2280
ATCAATCGGT CCTGAATCTT TGGGAAGGGA ACGGACAGCT CCATCTGGGG TAAAAACGTA    2340
AATCTCCTCA GCCAAATAGT TTTCCTTAAC AGAGTCCACA AATTCCTTAG CATCATCAGC    2400
CTGGTCTTGG AGCTCCATCA TCTCCTTGAT CCAGTTCATT CCAATAGCTG ATTCCTTGCT    2460
GTTAACTTGC CCCTTTATAC CTTTCTTATA AGCCCAGTGA GCCGCAACCC CGTACTCAGC    2520
CACCTCGTGC ATTTCCTTGG TTCGAATCTG GAATTCAATC GGCCCTTTTG GTCCATAAAC    2580
AGTCGTATGG ATAGACTGAT AACCATTGGC CTTGCGGTTG GCGATATAGT CTTTGAAGCG    2640
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848

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ACCTGGCATC GGTTTCCAAA ATTCATGCAC GTAACCAAGC ATGGCATAAA CATCACTTTG     2700

GGTATCTAAA ATACAACGAA TAGCAATCAG ATCATAGATT TCCTCAAACC GTTTTCTCTT     2760

GTCCTGCATT TTGCGGAAAA TTGAGTAAAT ATGCTTGGGA CGACCATAAA TCTTCCCTTT     2820

CAAGTGACGT TCTGTCGTAT ACTCCTCTAA TTTTGTGACT ACCTCATCCA CCAAGGCCTC     2880

ACGCTCCCTG CGCTTTTCCT TCATCATATG GGTAATCTTG TAAAACTCCG TTGGATTGAG     2940

ATAACGGAAA GACAAGTCTT CTAATTCCCA TTTGACACTG GAAATCCCCA AACGATGGGC     3000

AAGCGGGGCA TAGATTTCCA TGGTTTCTTT GGAAATACGC TCCTGCTTGT CTTTTCGAAG     3060

ATGTTTCAGG GTCCGCATAT TGTGCAAGCG GTCAGACAGT TTGACCAAAA TAACGCGGAT     3120

GTCCTCAGAC ATGGCCATGA GCATCTTGCG ATGATTTTCC GCTAATTGCT CCTCGATCGA     3180

TTTGTACTCG ACCTTGCCAA GCTTGGTAAC TCCGTCAACA ATCATCCGCA CATCAGGACC     3240

AAACTCTCTT TCCAAATCGT CCAAAGTCGC ATCTGTATCT TCCACCACAT CATGCAAGAA     3300

TCCACAAGCT ACTGTTACAG CATCCAGCTT TAGCTTAGCT AAAATACCTG CCACTTGGAT     3360

AGGGTGAATG ATATAAGGCT CGCCTGATTT GCGATATTGA CCACTGTGGC ATTCAACAGC     3420

ATAGACCAAG GCCTTATGGA CAAAATGAAC ATCCTCTTCC GTTAAATATT CTTTGGTTAA     3480

AGCGACAACT TCTTCGCCTG TTAAATTCAC TTCTTTCGGC ATCTCTACTC TCCAATTCTT     3540

CCTACCATTT TATCACTTTT TTAAGAATAT GAAAACTAGA TTGGAACAGA ATAAGAAAAA     3600

AATAATTCAA AATTGCTTGA TAATTCTGAA TTATTGGTCC GTAATATACT ACGAAGTTAG     3660

ATTTTAAACT TAGGTGATAG AAGGAGAGAT AGAAGAACGG AAACCATATT GTAACCCAAA     3720

GACTTTCTGA CTTCCCCAAT TCCATTGAAG ATACGAAAGA TAAACGGTGG AACTCGTATC     3780

ACATACACTG GTACCTTGAC TGGATTTTGG AATTAATACT AAATGAAAAT CAAAGAGCAA     3840

ACTAGGAAAC TAGCCGCAGG TTACTCAAAG CACCGCTTTG AGGTTGCAGA TAAAGTTGAC     3900

GCGGTTTGAA GAGATTTTTG AAGAGTATAA AAATCCTCAA GATACTTTCT TCTATCCTTT     3960

AGTTTATAAG GAGAATACCT ATGAAAAAAA CTGCTATTTC TATCTTTGCT CTCCTAATGT     4020

TAGGAGTTTG CTGCCTGTTC CTATTCAGCC AGCAAAGCTA TAAAAAACAG TCGTTCAATA     4080

CTATGCTAAC GACCAGAACC TGCCCAGTAG GATAACTTAT AGTGAATATA GCGACAAATG     4140

AGAAGCCAAC TACGGTAGCA CTCTAAACAT CACGTCTATC AAACAAGCTA ATGACGGAGT     4200

TTATGCAACC TATGAAGGGC AATTGACACC TTTCCAATAT TGATAAATTG ATAACCAGCC     4260

TGTCTTCATC TAGTCATGCT GGTTTTTAAG TTCATTTTAA ATCCTTACCT ATTCTCCCTA     4320

ACTGTGCTAT ACTTAATTTA TACTCAATGA AAATCAAAGA GCAAACTAGA AAGCTAGCCG     4380

CAGGCTGTTC AAAGCACTGC TTTGAGGTTG CAGATAAAGT TGACGCGGTT TGAAGAGATT     4440
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849

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TTCGAAGAGT ATTAGTACAT TCTTTGAGAT TGGAGCTAGT ATGAAAATCC ATAAAACCGT    4500

GAATCCTGTT GCCTATGAAA ATACCTATTA TCTAGAAGGC GAAAAGCACC TCATCGTCGT    4560

CGATCCTGGT AGTCATTGGG AAGCCATTCG TCAGACAATC GAGAAGATCA ACAAACCGAT    4620

CTGTGCTATT CTCTTGACCC ACGCCCATTA TGACCATATC ATGAGTCTGG ACTTGGTTCG    4680

CGAGACGTTT GGCAATCCTC CTGTCTATAT CGCAGAGAGC GAAGCCAGCT GGCTCTACAC    4740

TCCTGTCGAT AATCTCTCCG GTCTCCCTCG CCACGATGAT ATGGCAGATG TGGTCACAAA    4800

ACCTGCAGAA CACACCTTTG TCTTTCACGA AGAATACCAA CTAGAGGAAT TTCGTTTTAA    4860

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GAGTTTGGCT GGTGCGTGCA CATCGACGCT AGCCAAAAGT TTCATAAATT CTGGTCGACC    5400

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CACTGCCCCA ATACCACCGT AGTTAGCAGA AGATGACTGA TGCAAGTCAT AGAAAGGCGC    5760

CTGTAAAATG GCCGCTGGAA AGACAATCAG GTTCTTCTGA GGATTGTAGT AGGCATTGAC    5820

CATATGAGCA GGCATGCCCC ATTCCTTATA ATCTACAGGC TGGTTCCACT TACTCCAACT    5880

GTGCTTGATT TCCACACGCG CAAAGGCTAG AGCATTCTCA AAAAGACTGG CAGTTTCATT    5940

CACTACCTTA TCCTTGTAAC GTGCAGGCAA TTCTTCTGGA TAGCCAATAT AAGGTTTGAT    6000

CACATTGAGC TTCACGATAG CCTGTTTACA GGTTTCTGGA GTGAGCCAGT CATTCTTAAG    6060

CAGACGCTCC TTATAAACAT CAATCATGGT TGCCACTTTT TTCTCCACAT CCGCCTTGGC    6120

TTCTGGAGAG AACTTCTCAC GGGCGTACCA AAGACCCAGG GCTTGCTTGA AAGGTTCTTG    6180
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850

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TGCTAGATGA TAAGCTGCTT TGACCTTATC TTTTGCCTCT GGAACTCCAG AAAGGGCACG      6240

GCTGTAGGCA CCAGACAAAA CACGGATATC CTCTGTTAAA TAGCTGGTTG AAAGATTGAC      6300

AACACTCAAA ATCAAGGTTG CTTTAAGGAG AGACCAGGCT TCCTCACTGT AGAATTGCTC      6360

TGCTGCTTGC CAGAAACGTT CCTCGTCTAC AATAACCTTG TCTGGTAATT GCCCAATAAC      6420

TGCTTTGAAG AAGTCATCCA AAGGTAGGGC AGGCGCGAAT TTCTTGAAAT CTTCGTAAGA      6480

ATATGGATGA TAGAGTTTAG CATATTCTGA ACTTTCTTCA TTAGAGAGCA CCACTGCCGC      6540

AACTCGGCGG TCCAATTCAA GTCTTTTTTC TAGCAAGTCT TCAATTTCTT CATCAGAGAA      6600

ATCATAAGCC TTGAGGAGAT TTGCGCTGCT TTCTTTCCAA AGAGTCAAGA GCTCTTCGCG      6660

CTGAGGATGT TCTTCTGCAT AGTAGGTCGT ATCTGGCAAG ATTGTGCTTG GAGCGCTAGC      6720

CCATAGAACA TTGATTCTAG CATCCATAAA GTCTGGCGAT ACACCAAAAG GAAGGAAGTT      6780

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TTCTTGGAAT TCTTTAAGGA GTGGTAAGAC AGGTGTGATA CCGTCAGCTT CTCTCTTGTC      6900

AAAATCACGA ACTAGGCGGT GGTATTTGAC AAAGTTTTCC AAGATAGCAT CCTCAGGCAC      6960

TTCTTCACCT GCTAACCACT TGTCTGTTGT CGCCAGCATC AGGTCTTCAA TTTCCTGGTC      7020

TAAATCAACA AAACCTCCTG TTTGAGACTT ATCTGCTGGG ATTTCAGCTG TCTGTTGCCA      7080

TTCTCCATTG ATAGCATCAT AAAAATCATC TTGATAACGT GTCATCTTGT TCTCGCTTTC      7140

ATTTGTATTT GCATTTATCT TAACAAAAAT CG                                    7172
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(2) INFORMATION FOR SEQ ID NO: 121:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 4518 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear


    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 121:

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CGGGAAGTTA TGCGATCTAG ACTTCGTTCC TGTACAGCTA CTTTCTCAGG TGGTCTTGTT        60

GTTTGTATGA GTTTGTTTAG AGAGGATCTT TCTATGTCTT TCTTTCTTAT TTTTGTTTTA       120

TATGCTTTTC TGATTTCTTA TCTAATTTAT GGTTATTTCA GACTAAAAAG GAAATACCGA       180

GTAGATGAAT AGCAAGGTTC TAGGTCTTCA GATTGATTTT TAGCACTCTT GATAAAAGAG       240

TGCTAATTTT TTGAGTTTTT GTCTTGACAT TCTCTTCTAA GGGTGTATAA TAGAATCATG       300

AGTTAGCACT TGGATGCATT GAGTGCTAAT TGATCAGACA GAGAGGAGTG ATGAGATGGT       360

TACAGAGCGT CAGCAGGATA TTTTAAATCT GATTATTGAC ATCTTTACCA AAACGCACGA       420
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851

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ACCTGTCGGA TCAAAAGCCT TGCAAGAGTC TATTAACTCT AGCAGTGCAA CCATTCGTAA        480

TGACATGGCG GAACTAGAAA AACAAGGGTT GCTTGAGAAG GCTCATACTT CAAGTGGTCG        540

GATGCCAAGT GTTGCTGGTT TTCAGTACTA TGTGAAACAC TCACTGGATT TTGACCGGCT        600

GGCTGAAAAT GAGGTATATG AGATTGTCAA AGCCTTTGAT CAGGAATTCT TCAAATTGGA        660

GGATATTCTG CAAGAGGCTG CTAACTTACT AACAGACCTG AGTGGCTGTA CGGTAGTGGC        720

ACTGGATGTT GAGCCGAGCA GGCAACGTTT GACAGCCTTT GATATCGTTG TTTTGGGGCA        780

ACATACAGCC TTGGCGGTAT TTACCCTAGA CGAGTCGCGA ACGGTTACTA GTCAGTTTCT        840

GATTCCAAGG AACTTCTTGC AGGAGGATTT GCTGAAACTG AAGAGCATCA TTCAGGAACG        900

TTTCCTCGGT CACACCGTTT TAGATATTCA CTACAAGATT CGGACGGAGA TTCCGCAGAT        960

TATCCAGCGT TACTTTACAA CAACGGATAA TGTCATCGAT CTCTTTGAAC ACATCTTTAA       1020

GGAAATGTTC AACGAAAACA TTGTGATGGC GGGCAAGGTC CATCTCTTGA ATTTTGCCAA       1080

TCTAGCAGCC TATCAGTTCT TTGACCAACC GCAAAAGGTG GCCTTGGAGA TTCGTGAGGG       1140

GTTGCGTGAG GATCAGATGC AAAATGTTCG TGTTGCAGAC GGTCAAGAGT CCTGTTTAGC       1200

TGACCTAGCG GTAATCAGTA GTAAGTTCCT CATTCCTTAT CGGGGAGTTG GAATTCTAGC       1260

CATTATCGGT CCAGTTAATC TGGATTACCA ACAGCTAATC AATCAAGTCA ATGTGGTCAA       1320

CCGTGTTTTG ACCATGAAGT TGACAGATTT TTACCGCTAC CTCAGCAGTA ATCATTACGA       1380

AGTACATTAA GATTGAAATC ATTAAAGGAG GCGAACATGG CCCAAGATAT AAAAAATGAA       1440

GAAGTAGAAG AAGTTCAAGA AGAGGAAGTT GTGAAAACAG CTGAAGAAAC AACTCCTGAA       1500

AAGTCTGAGT TGGACTTGGC AAATGAACGT GCAGATGAGT TCGAAAACAA ATATCTTCGC       1560

GCTCATGCAG AAATGCAAAA TATCCAACGC CGTGCCAATG AAGAACGTCA AAACTTGCAA       1620

CGTTATCGTA GCCAGGACTT GGCAAAAGCA ATCTTACCAT CTCTTGACAA CCTTGAGCGT       1680

GCACTTGCAG TTGAAGGTTT GACAGATGAT GTGAAGAAGG GCTTGGGGAT GGTGCAAGAA       1740

AGCTTGATTC ACGCTTTGAA AGAAGAAGGA ATTGAAGAAA TCGCAGCAGA TGGCGAATTT       1800

GACCATAACT ACCATATGGC CATCCAAACT CTCCCAGCAG ACGATGAACA CCCAGTAGAT       1860

ACCATCGCTC AAGTCTTTCA AAAAGGCTAC AAACTCCATG ACCGCATCCT ACGCCCAGCA    ·  1920

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ATTGACGAAG TGTTCGATGA ACACAAGAAA ATCTATCTTT TTTACTCAGA GCTTAGGGCG       2040

TGTTCGATTC GGCAATTCTG ACGGTAGCTA AAGCAACTCG TCAGAAAACG GCAATCGCTA       2100

TGGCGTTTGC CTAGCTTCCT TACTAACTCG TCGTCGAAAT AAAATCGATT TCGACTCCTC       2160
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852

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GTGTCGCAAT TTACATAATA GAAAACTTGT CCGAAACGAC AATAAACTAT GAAGAAAGAT      2220

AAAATATGTT TGGCTTTGTA ATAGTGAGCG AAGCGAACCA AACACGATAC TCTTCGCCGT      2280

GGCGCTATTT GCGCAAATTT TGAGACCTTA GGCTCAAAGT TTAGTCAAAG AGATTGACGA      2340

AGTCAAGCTC TGACGGCGTC GCCACTGTCG CCACTTAAGA AGAGTATCAA AAAGAAAAAT      2400

AGAAAATTAA CTAACAAGGA GAAAAACACA TGTCTAAAAT TATCGGTATT GACTTAGGTA      2460

CAACAAACTC AGCAGTTGCA GTTCTTGAAG GAACTGAAAG CAAAATCATC GCAAACCCAG      2520

AAGGAAACCG CACAACTCCA TCTGTAGTCT CATTCAAAAA CGGAGAAATC ATCGTTGGTG      2580

ATGCTGCAAA ACGTCAAGCA GTTACAAACC CAGATACAGT TATCTCTATC AAATCTAAGA      2640

TGGGAACTTC TGAAAAAGTT TCTGCAAATG GAAAAGAATA CACTCCACAA GAAATCTCAG      2700

CTATGATCCT TCAATACTTG AAAGGCTACG CTGAAGACTA CCTTGGTGAG AAAGTAACCA      2760

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CTGGTAAAAT TGCTGGTCTT GAAGTAGAAC GTATTGTTAA CGAACCAACT GCAGCAGCTC      2880

TTGCTTATGG TTTGGACAAG ACTGACAAAG AAGAAAAAAT CTTGGTATTT GACCTTGGTG      2940

GTGGTACATT CGACGTCTCT ATCCTTGAAT TGGGTGACGG TGTCTTCGAC GTATTGTCAA      3000

CTGCAGGGGA CAACAAACTT GGTGGTGACG ACTTTGACCA AAAAATCATT GACCACTTGG      3060

TAGCAGAATT CAAGAAAGAA AACGGTATCG ACTTGTCTAC TGACAAGATG GCAATGCAAC      3120

GTTTGAAAGA TGCGGCTGAA AAAGCGAAGA AAGACCTTTC TGGTGTAACT TCAACACAAA      3180

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CTCGTGCGAA ATTTGACGAT TTGACTCGTG ACCTTGTTGA ACGTACAAAA GTTCCAGTTC      3300

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GTGGTTCAAC TCGTATCCCT GCCGTTGTTG AAGCTGTTAA AGCTGAAACT GGTAAAGAAC      3420

CAAACAAATC AGTAAACCCT GATGAAGTAG TTGCTATGGG TGCGGCTATC CAAGGTGGTG      3480

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TCGAAACAAT GGGTGGAGTA TTTACAAAAC TTATCGATCG CAACACTACA ATCCCAACAT      3600

CTAAATCACA AGTCTTCTCA ACAGCAGCAG ACAACCAACC AGCCGTTGAT ATCCACGTTC      3660

TTCAAGGTGA ACGCCCAATG GCAGCAGATA ACAAGACTCT TGGACGCTTC CAATTGACTG      3720

ATATCCCAGC TGCACCTCGT GGAATTCCTC AAATCGAAGT AACATTTGAC ATCGACAAGA      3780

ACGGTATCGT GTCTGTTAAG GCCAAAGACC TTGGAACTCA AAAAGAACAA ACTATTGTCA      3840

TCCAATCGAA CTCAGGTTTG ACTGACGAAG AAATCGACCG CATGATGAAA GATGCAGAAG      3900

CAAACGCTGA AGCCGATAAG AAACGTAAAG AAGAAGTAGA CCTTCGTAAT GAAGTAGACC      3960
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853

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AAGCAATCTT TGCGACTGAA AAGACAATCA AGGAAACTGA AGGTAAAGGC TTCGACGCAG      4020

AACGTGACGC TGCCCAAGCT GCCCTTGATG ACCTTAAGAA AGCTCAAGAA GACAACAACT      4080

TGGACGACAT GAAAACAAAA CTTGAAGCAT TGAACGAAAA AGCTCAAGGA CTTGCTGTTA      4140

AACTCTACGA ACAAGCCGCA GCAGCGCAAC AAGCTCAAGA AGGAGCAGAA GGCGCACAAG      4200

CAACAGGGAA CGCAGGCGAT GACGTCGTAG ACGGAGAGTT TACGGAAAAG TAAGATGAGT      4260

GTATTGGATG AAGAGTATCT AAAAAATACA CGAAAAGTTT ATAATGATTT TTGTAATCAA      4320

GCTGATAACT ATAGAACATC AAAAGATTTT ATTGATAATA TTCCAATAGA ATATTTAGCT      4380

AGATATAGAG AATTATATTA GCTGAACATG ATAGTTGTAT CAAAAATGAT GAAGCGGTAA      4440

GGAATTTTGT TACCTCAGTA TTGTTGTCTG CATTTGTATC GGCGATGGTA CCGTATCTGA      4500

CGAACGTTCA GCTTATAT                                                    4518
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(2) INFORMATION FOR SEQ ID NO: 122:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 8145 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear


    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 122:

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TGCTATTTTC GATTCCCTTG GGCGTTTTGA TTGCCTTTGC CTTGCAAGTC CATTGGAAGC       60

CCCTCCATTA TCTGATTAAC ATTTACATCT GGGTTATGCG AGGAACCCCC TTACTCTTGC      120

AACTGATTTT TATCTATTAT GTGCTCCCAA GTATTGGGAT TCGTTTAGAC CGCCTTCCTG      180

CAGCTATTAT TGCCTTTGTT CTCAACTATG CAGCTTACTT TGCAGAAATT TTCCGTGGGG      240

GAATTGACAC TATTCCAAGA GGACAGTATG AGGCCGCCAA GGTCTTGAAG TTTAGCCCTT      300

TTGACAGAGT GCGCTATATT ATCTTGCCCC AAGTGACCAA GATCGTTCTT CCTAGTGTCT      360

TTAATGAAGT TATGAGTTTG GTCAAGGATA CTTCTTTGGT CTATGCTCTC GGAATTTCAG      420

ACCTTATCTT GGCTAGTCGA ACAGCTGCTA ACCGCGATGC TAGTCTAGTT CCTATGTTCT      480

TGGCAGGAGC CATTTATTTG ATTTTGATTG GGATTGTGAC AATTATTTCC AAAAAAGTTG      540

AGAAGAAGTA TAGTTATTAT AGATAGGAGG CTGCCATGTT AGAATTACGA AATATCAATA      600

AAGTCTTTGG AGACAAACAA ATCCTGTCTA ATTTCAGTCT AAGTATTCCT GAAAAGCAAA      660

TCCTGGCTAT CGTTGGACCT TCTGGTGGAG GTAAGACAAC TCTTTTACGT ATGCTTGCAG      720

GTCTTGAAAC CATTGATTCA GGGCAAATCT TTTATAATGG ACAACCTTTA GAGCTGGATG      780
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854

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AATTGCAGAA GCGCAATCTA CTGGGATTTG TCTTCCAAGA TTTTCAACTA TTTCCTCATC     840

TATCAGTTCT GGAAAATTTG ACTTTATCGC CTGTGAAGAC CATGGGAATG AAGCAGGAAG     900

AGGCTGAGAA GAAGGCGAGT GGACTCTTGG AACAGTTAGG ACTAGGAGGA CACGCAGAGG     960

CCTATCCTTT CTCACTATCT GGTGGGCAAA AGCAGCGGGT GGCTTTGGCG CGTGCTATGA     1020

TGATTGACCC AGAAATCATT GGCTACGATG AACCAACTTC TGCCCTGGAT CCAGAATTAC     1080

GTTTGGAAGT GGAGAAGCTA ATCTTGCAAA ATAGGGAACT TGGGATGACC CAGATTGTGG     1140

TTACCCATGA TTTGCAGTTT GCTGAAAATA TCGCAGATGT ATTATTGAAA GTAGAACCTA     1200

AATAGGAGGA AAAATGGATG AAAAAATGGA TGCTTGTATT AGTCAGTCTG ATGACTGCTT     1260

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ACCAGTCTAA CAAGTCTATT ACTATTGGAT TTGATAGTAC TTTTGTTCCA ATGGGATTTG     1380

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CAAAAGGAAC GATTGATCTG ATTTGGAATG GCTATTCCGC TACAGACGAA CGCCGTGAAA     1560

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AGGAAGATAC AAAACTTGGTT AAGAAGATAA ATGAAGCTTT TTCTAGTCTT TACAAGGACG     1980

GCAAGTTCCA AGAAATCAGC CAAAAATGGT TTGGAGAAGA TGTAGCAACC AAAGAAGTAA     2040

AAGAAGGACA GTAAGATAAA ATAGTGGCTG AAACTGCGTT TTGATTAGCA AAACGTAGTT     2100

TTTTTTGTAA TCTAGGAAAA CGATAATAGC GATTGAATAT GGATAATTGA ATATGGAATA     2160

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GCAAATCATT GAGTTGGCTT GGTTCTTCAC TATTGATGAA GTAAATGTGA GCTTTGGTTT     2520

CAGCTACGAC ACCTGACAAT GTACCTGCAA ATTTACGGCA GTAAGGGCAA GTTTTGCGAC     2580
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855

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CGATAAAGAA GGTTGCAGTT TCTTTTTTAT CAAGAGCTTC TTGCGCACGC ACAACTGTAG    2640

TGACTTCAAG GTCTTTGATG TTATCTAAAA ATTGTTCCAT GAGATTACCT CGCTTTCATT    2700

GATAAGTCTA GTATGCCATA AAGTTTCTAA AATTGCTTAG ATTTGATACG AAAAAAGATG    2760

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AGTCGGACGA AGGCTTTCAA ATACGTAAGA TTTGATGCCG TGTTTAGCAA GAACTGCCGC    4200

AGATTCAAAG GCAAACTCAG GTGAGAAGTG ACGGCTATCG TAGGCAATTG CTACACCGCG    4260

TTCTTTCTCG TTTCCACCTT TTGACTCAAT CAAACGAGCC AATCCTTCAG TAGCTTGGCG    4320
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856

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AACAACGTAG ATGTTGATAC GGTTTGTACC AGCACCAACC AAGCCACGCA TACCTGCAGT      4380

ACCAAATTCA AGATTTGTAT AGAAGGCATC TTCCTTAGTT TTTTCGTCCA TATTTTCCAA      4440

ATCTTGACGA AGGTAGTCAC GAAGCTCCAC AAAATCAACC CATTTCTGGT AATTTTCTTG      4500

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TTTTTAGTTT TAGTAAAACC TTATCTGCTT CGAACATCTC TTCAAACCAG GTCAGATTGA      4620

ATTTTGGGGT TATATGATGT TGAGGCTAGG AAAAATTCAA TTTCAGTAAA AAAAGTAAGT      4680

CTTCTCATAA CAAAACATTG ATATAGTTAC TTAGTTTTAA ACAAGCATAT TATAATAAAG      4740

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AGAAAGACGT GAACAAGAAC ACATAGAGAG GAAAAAGCGA GTCGTCAAAA ACCGAAAGAT      4920

TCCTTTAGAG GAATTGAAAG CCTTTGTAGA GGCTCATCCA GATGCTTTTT TACGGGAAAT      4980

TGCGGCACAT TTTGATTGTG CTGTTCCTTC AGTATGGGCA GCTTTAAAGC AGATTAAGGT      5040

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TAAGAATTTT AATAGTTTAA AGCACCTAGC ACCTGTTTAT ATTGATGAAA CAGGAATCGA      5160

CCGCTATCTC TATCGTCCTT ATGCAGGGGC TCCTAGAGGG GAGAAAGTCT ATGAAAGAT       5220

TAGCGGACGT CGTTTTGAGC GAACTTCAAT TGTTGCAGGA CAAGTAGACG GAGAGTTTAT      5280

AGCTCCCATG ATTTACAAGA AAAGCATGAC AAGCGATTTC TTTGTGGAGT GGTTCAAAAC      5340

GCAACTCCTA CCTGCTTTGA AGACACCTCA TGTTATTGTC ATGGGCAATG CTGGTTTTCA      5400

TCCCAAGAAC ATTTTGGATG AACTCTGCAT CCAAGATAAA CACTTTTTCT TACCTCTACC      5460

ACCTTATTCA CCGGATTTGA ATCCTATTGA GCAAGCTTGG GCTATCTTGA AAAAGAAAGT      5520

GACGGATGTA TTAAGGGAAG TTCCAACTAT TTTTGAATGT TTGGAATGCT TTTTTAAAAC      5580

TAGATGACTA TAACGGTTCT AAAGGAACCT ATCGAGTAGT CATTAAAACT AAGGATACTG      5640

CTGGTTAAGA GAAGACGGTA TACAATCAAA CCATTCACCG TGTAGCCGAA ATCGTTCAGA      5700

ATGAAGACTT GTATCAGAAT GAAGACTTGT ATAAGAAAGG TTTGAATGTT GAACTTGCGC      5760

ACCAACAAAT TAAGGGATTT TTTGAAGCAG AGTTTAAAAA TCGTATTAAT GGAGTTCTTA      5820

ATACTAAAAT AAAAAATAGT ACATTAAATC GTGTAAATAA AAAAACTATA CACCAGAGCA      5880

ACAAAAACTC CATGATCAAT TTGAAGCAGA AGCAACGGAA GATGCTAAAA AACAAGGCGA      5940

TATTGTGTTG AATGTTGACC AGGATTTCAT GAGCATATCT AAGTCTAATA AAAGTGGTTC      6000

AGACTGGAAG AAAACTTTCA CAGTGAGGAT AACCAATAGG CTAGCAAATG ACTTGAATAA      6060

TGTCTTGAAA CAGGTTGATA AAGATACTCC TAATACCCCA ACTTGGCTAA ACTCAGCTGC      6120
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857

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TTCTAAAGCT AAAGATGATG ACAGAGTATA TAAACTACTG AAGACTCTTA TACCAGGAGA    6180

AAATTACCTA TCATGTTAAG GATAATCAGC TAGAAGTAGA AACAGATAAA TACACATATA    6240

CTGCCGCTAG AAATGGTAGT AAGGAAGTTG GTATTCAAGA GTCAGATATA GCAGCAACTC    6300

TAAGTGCCGA TGAATATAAT TCTAATCGCC AAACTTTTGA GAGAGAATAC AAATACAAAA    6360

GCAAATGCCC TTAATAATGG TTGGGCTAGA TCTGGTTCTG AAGAGTTCAA AAAGTTCTCC    6420

CACTTTGTAG GGGTAGACAA AGGGATTGTG CGAACGAATG TACTGACTGG TAAAAAACTA    6480

TCTGATAAGA TTAGGAAAGA AGTGGGCTCT GGAGATAGCA AACTAGGAAA AGGCGGCTAT    6540

TTCTCTACTG GGGATGTTCT ATTAGGAAAA GATGTTGTTT CTTATACCGT ACAAGTATTT    6600

TCAGAGAATA ATGAAAGAGT AGGAGTAAAC ACTCAAAGTC ACCGTGTTCA GTATAATCTC    6660

CCAATTCTAG CTGACTTTTC AGTCATCCAA GATACTGTGG AACCATCACG AACCGTTGTT    6720

GAAAAAATCA TTCCAAAACT AAATATTCCC GAAGAAGAGA AAGGGAAAAT AACCGAAGAA    6780

ATCAAGAAAA AGAAAAAAAC CTCAGAATTG GCAGAACTAA TCTCAGAAAA TGTGAAAGTT    6840

CGCTATGTTG ATGAACAAGG GCGTTTGCTA TCATTGAAAA ATGATACTGG AATTGGAGAA    6900

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GTCACAGATA AAAAACTCAG TAGCATGACT ACTACTGACG GAAAATATTA TACTTTTAAA    7020

GAAGCAGATA CAAATTCTGC AAGTTTAACT GGGAATATTG TAAGCGAAGG TAGAACAGTG    7080

ACCTTAGTTT ATAGAGAAAG CGAAGCGCCA ACCACTGCTA CAGTAACAGC CAATTACTAT    7140

AAAGAAGGTA GGCAAGAGAA GTTGGTAGAG TCTGTTATAA AAGCTGATTT AGCGATAGGT    7200

TCTGAGTATA CCACAGAATC AAAAACTATT GAAGGGAAAA CAACAACTGA GGACAAAGAA    7260

GACCGAGTTA TCACAAGGAA AACAACATAC ACCTTGGTAG CAACTCCTGA AAATGCGTAC    7320

CAGAAGACGG TGCAACAGTT GACTATTACT ACCGTGAGAA TGTTGAGGAA ACAGTGGTTC    7380

CCAAAACAGC AACCTCTACT GAGACGAAGA CTATAACGCG TATCATTCAT TACGTTGATA    7440

AAGTTACGAA CCAAAATGTA AAAGAAGATG TTGTTCAACC TGTAACCTTA AGCCGTACAA    7500

AAACTGAGAA CAAGGTCACG GGAGTTGTAA CCTACGGTGA ATGGACAACA GGAAACTGGG    7560

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CACAAGAAGT TACGTCAGAC TCTAGTGATA AAGAAATAAC GGTAAGGTAT GACCGTTTAT    7680

CAACACCAGA AAAACCAATC CCACAACCAA ATCCAGAGCA TCCAAGTGTT CCGACACCAA    7740

ACCCAGAACT ACCAAATCAA GAGACTCCAA CACCAGATAA ACCAACTCCA GAACCAGGTA    7800

CTCCAAAAAC TGAAACTCCA GTGAATCCAG ACCCAGAAGT TCCGACTTAT GAGACAGGTA    7860
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858

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AGAGAGAGGA ATTGCCAAAC ACAGGTACAG AAGCTAATGC TACCTTGGCT AGTGCTGGTA    7920

TCATGACCTT GTTAGCTGGT CTAGGATTAG GATTTTTCAA GAAAAAAGAA GATGAAAAAT    7980

AATAGATTTT AGAATCTAGG AACCAGGAAA AGCTCACAGA TGTGGGCTTT TTTCCTGGTT    8040

TTGAGAACGA GGTCTTTCGT AAAGAATAAA AACGCTTACA AGTCTGTTGA ACTGGGAAAC    8100

TATGAATCCT ATTTTTTTAA AAATATTTCC AGAAATCAGT TGCGG                    8145
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(2) INFORMATION FOR SEQ ID NO: 123:

        (i) SEQUENCE CHARACTERISTICS:
            (A) LENGTH: 8697 base pairs
            (B) TYPE: nucleic acid
            (C) STRANDEDNESS: double
            (D) TOPOLOGY: linear


        (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 123:

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CGGTACCGGG AACGATACTT AGTCTAATTT TGCACCTTTT CCATGTATGG TAAAGGTTTT      60

TCTTTTTTTA AAAAGGAAAA CGAGAAGAGG AGGTTCTTAT GAAAGCAAGC ATTGCCTTGC     120

AAGTTTTACC CCTAGTACAG GGGATTGATC GGATAGCTGT TATTGATCAG GTCATTGCTT     180

ATCTGCAwAC TCAAGAAGTG ACGATGGTAG TGACACCATT TGAAACGGTC TTGGAAGGGG     240

AGTTTGATGA GCTTATGCGC ATTCTAAAAG AAGCGCTGGA AGTGGCAGGG CAGGAGGCAG     300

ACAATGTCTT TGCCAATGTC AAAATAAATG TAGGAGAGAT TTTAAGTATT GATGAGAAAC     360

TTGAGAAGTA TACTGAGACG ACACATTAGT CTATTGGGCT TTCTCGGAGT ATTGTCAATC     420

TGGCAGTTAG CAGGTTTTCT TAAACTTCTC CCCAAGTTTA TCCTGCCGAC ACCTCTTGAA     480

ATTCTCCAGC CCTTTGTTCG TGACAGAGAA TTTCTCTGGC ACCATAGCTG GGCGACCTTG     540

AGAGTGGCTT TACTGGGGCT GATTTTGGGA GTTTTGATTG CCTGTCTTAT GGCTGTGCTC     600

ATGGATAGTT TGACTTGGCT CAATGACCTG ATTTACCCTA TGATGGTGGT CATTCAGACC     660

ATTCCGACCA TTGCCATAGC TCCTATCCTG GTCTTGTGGC TAGGTTATGG GATTTTGCCC     720

AAGATTGTCT TGATTATCTT AACGACAACC TTTCCCATCA TCGTTAGTAT TTTGGACGGT     780

TTTAGGCATT GCGACAAGGA TATGCTGACC TTGTTTAGTC TGATGCGGGC CAAGCCTTGG     840

CAAATCCTGT GGCATTTTAA AATCCCAGTT AGCCTGCCTT ACTTTTATGC AGGTCTGAGG     900

GTCAGTGTCT CCTACGCCTT TATCACAACT GTGGTATCTG AGTGGTTGGG AGGTTTTGAA     960

GGTCTTGGTG TTTATATGAT TCAGTCTAAA AAACTGTTTC AGTATGATAC CATGTTTGCC    1020

ATTATTATTC TGGTGTCGAT TATCAGTCTT TTGGGTATGA AGCTGGTCGA TATCAGTGAA    1080

AAATATGTGA TTAAATGGAA ACGTTCGTAG AATTAGAATG TTTCTGAAAA AGAAAAGAGG    1140
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859

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AAATCAAAAT GAAGAAAACA TGGAAAGTGT TTTTAACGCT TGTAACAGCT CTTGTAGCTG      1200

TTGTGCTTGT GGCCTGTGGT CAAGGAACTG CTTCTAAAGA CAACAAAGAG GCAGAACTTA      1260

AGAAGGTTGA CTTTATCCTA GACTGGACAC CAAATACCAA CCACACAGGG CTTTATGTTG      1320

CCAAGGAAAA AGGTTATTTC AAAGAAGCTG GAGTGGATGT TGATTTGAAA TTGCCACCAG      1380

AAGAAAGTTC TTCTGACTTG GTTATCAACG GAAAGGCACC ATTTGCAGTG TATTTCCAAG      1440

ACTACATGGC TAAGAAATTG GAAAAAGGAG CAGGAATCAC TGCCGTTGCA GCTATTGTTG      1500

AACACAATAC ATCAGGAATC ATCTCTCGTA AATCTGATAA TGTAAGCAGT CCAAAAGACT      1560

TGGTTGGTAA GAAATATGGG ACATGGAATG ACCCAACTGA ACTTGCTATG TTGAAAACCT      1620

TGGTAGAATC TCAAGGTGGA GACTTTGAGA AGGTTGAAAA AGTACCAAAT AACGACTCAA      1680

ACTCAATCAC ACCGATTGCC AATGGCGTCT TTGATACTGC TTGGATTTAC TACGGTTGGG      1740

ATGGTATCCT TGCTAAATCT CAAGGTGTAG ATGCTAACTT CATGTACTTG AAAGACTATG      1800

TCAAGGAGTT TGACTACTAT TCACCAGTTA TCATCGCAAA CAACGACTAT CTGAAAGATA    ` 1860

ACAAAGAAGA AGCTCGCAAA GTCATCCAAG CCATCAAAAA AGGCTACCAA TATGCCATGG      1920

AACATCCAGA AGAAGCTGCA GATATTCTCA TCAAGAATGC ACCTGAACTC AAGGAAAAAC      1980

GTGACTTTGT CATCGAATCT CAAAAATACT TGTCAAAAGA ATACGCAAGC GACAAGGAAA      2040

AATGGGGTCA ATTTGACGCA GCTCGCTGGA ATGCTTTCTA CAAATGGGAT AAAGAAAATG      2100

GTATCCTTAA AGAAGACTTG ACAGACAAAG GCTTCACCAA CGAATTTGTG AAATAATGAC      2160

AGAAATTAGA CTAGAGCACG TCAGTTATGC CTATGGTCAG GAGAGGATTT TAGAGGATAT      2220

CAACCTACAG GTGACTTCAG GCGAAGTGGT TTCCATCCTA GGCCCAAGTG GTGTTGGAAA      2280

GACCACCCTC TTTAATCTAA TCGCTGGGAT TTTAGAAGTT CAGTCAGGGA GAATTGTCCT      2340

TGATGGTGAA GAAAATCCCA AGGGGCGCGT GAGTTATATG TTGCAAAAGG ATCTGCTCTT      2400

GGAGCACAAG ACGGTGCTTG GAAATATCAT TCTGCCCCTC TTGATTCAAA AGGTGGATAA      2460

GGCAGAAGCT ATTTCCCGAG CGGATAAAAT TCTTGCGACC TTCCAGCTGA CAGCTGTAAG      2520

AGACAAGTAT CCTCATGAAC TTAGCGGTGG GATGCGCCAG CGTGTAGCCT TACTCCGGAC      2580

CTACCTTTTT GGGCACAAGC TCTTTCTCTT AGATGAGGCC TTTAGCGCCT TGGATGAGAT      2640

GACAAAGATG GAACTCCACG CTTGGTATCT TGAGATTCAC AAGCAGTTGC AGCTAACAAC      2700

CCTGATCATC ACGCATAGTA TTGAGGAGGC CCTCAATCTC AGCGACCGTA TCTATATCTT      2760

GAAAAATCGC CCTGGGCAGA TTGTTTCAGA AATTAAACTA GATTGGTCTG AAGATGAGGA      2820

CAAGGAAGTC CAAAAGATTG CCTACAAACG TCAAATTTTG GCGGAATTAG GCTTAGATAA      2880
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860

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GTAGAAAAAT AGGGAGTTGG TGAAGATTAT CCTTTACCAG CGCCCTTTTT CTTTTAAAAA       2940

TGAGAAAATT TCGGTATAAT AGTCAAACAA GGTCAAGGTT TAAAGAGAGA GGTGGGTTTG       3000

TTATGAGATT TAAAAATACA TCGGATCATA TTGAGGCCTA CATCAAGGCG ATTTTAGATC       3060

AATCTGGTAT CGTGGAGTTG CAACGGAGTC AGTTGGCAGA TACCTTTCAG GTTGTTCCTA       3120

GTCAGATTAA CTACGTGATC AAGACACGCT TTACGGAAAG TAGAGGCTAC TTGGTTGAAA       3180

GTAAGCGTGG TGGCGGAGGC TACATTCGTA TAGGACGGAT TGAGTTTTCT AGTCATCATG       3240

AAATGCTCCG GGAGCTGCTT TACTCGATTG GTGAGCGAGT CAGTCAAGAA ATTTATGAGG       3300

ATATTCTCCA GCTTTTGGTT GAGCAGGAAT TGATGACCAA GCAGGAGATG AATTTGCTAG       3360

AATCAGTAGC TTTGGATCGC GTTTTAGGAG AAGAAGCTCC AGTTGTTCGA GCAAACATGC       3420

TACGTCAGAT CATACAAGAG GTAGATAGAA AAGGGAAGTA AGATGAACTA TTCAAAAGCA       3480

TTGAATGAAT GTATCGAAAG TGCCTACATG GTTGCTGGAC ATTTTGGAGC TCGTTATCTA       3540

GAGTCGTGGC ACTTGTTGAT TGCCATGTCT AATCACAGTT ATAGTGTAGC AGGGGCAACT       3600

TTAAATGATT ATCCGTATGA GATGGACCGT TTAGAAGAGG TGGCTTTGGA ACTGACTGAA       3660

ACGGACTATA GCCAGGATGA AACCTTTACG GAATTGCCGT TCTCCCGTCG TTTGCAGGTT       3720

CTTTTTGATG AAGCAGAGTA TGTAGCGTCA GTGGTCCATG CTAAGGTACT AGGGACAGAG       3780

CACGTCCTCT ATGCGATTTT GCATGATAGC AATGCCTTGG CGACTCGTAT CTTGGAGAGG       3840

GCTGGTTTTT CTTATGAAGA CAAGAAAGAT CAGGTCAAGA TTGCTGCTCT TCGTCGAAAT       3900

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ACAGTAGCTG ACAAGCAAAA TTCTATGGCC AATATGATGG GCATGCCGCA GACTCCTAGT       4020

GGTGGTCTCG AGGATTATAC GCATGATTTG ACAGAGCAAG CGCGTTCTGG CAAGTTAGAA       4080

CCAGTCATCG GTCGGGACAA GGAAATCTCA CGTATGATTC AAATCTTGAG CCGGAAGACT       4140

AAGAACAACC CTGTCTTGGT TGGGGATGCT GGTGTCGGGA AAACAGCTCT GGCGCTTGGT       4200

CTTGCCCAGC GTATTGCTAG TGGTGACGTG CCTGCGGAAA TGGCTAAGAT GCGCGTGTTA       4260

GAACTTGATT TGATGAATGT CGTTGCAGGG ACACGCTTCC GTGGTGACTT TGAAGAACGC       4320

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CTCCACACCA TCATGGGTTC TGGTAGCGGG ATTGATTCGA CTCTGGATGC GGCCAATATC       4440

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GAAGAACCAA GTGTGGCAGA TAGTATGACT ATTTTACAAG GTTTGAAGGC GACTTATGAG       4620

AAACATCACC GTGTACAAAT CACAGATGAA GCGGTTGAAA CAGCGGTTAA GATGGCTCAT       4680
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861

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CGTTATTTAA CCAGTCGTCA CTTGCCAGAC TCTGCTATCG ATCTCTTGGA TGAGGCGGCA     4740

GCAACAGTGC AAAATAAGGC AAAGCATGTA AAAGCAGACG ATTCAGATTT GAGTCCAGCT     4800

GACAAGGCCC TGATGGATGG CAAGTGGAAA CAGGCAGCCC AGCTAATCGC AAAAGAAGAG     4860

GAAGTACCTG TCTACAAAGA CTTGGTGACA GAGTCTGATA TTTTGACCAC CTTGAGTCGC     4920

TTGTCAGGAA TCCCAGTTCA AAAACTGACT CAAACGGATG CTAAGAAGTA TTTAAATCTT     4980

GAAGCAGAAC TCCATAAACG GGTTATCGGT CAAGATCAAG CTGTTTCAAG CATTAGCCGT     5040

GCCATTCGCC GCAACCAGTC AGGGATTCGC AGTCATAAGC GTCCGATTGG TTCCTTTATG     5100

TTCCTAGGGC CTACAGGTGT CGGGAAAACT GAATTAGCCA AGGCTCTGGC AGAAGTTCTT     5160

TTTGACGACG AATCAGCCCT TATCCGCTTT GATATGAGTG AGTATATGGA GAAATTTGCA     5220

GCTAGTCGTC TCAACGGAGC TCCTCCAGGC TATGTAGGAT ATGAAGAAGG TGGGGAGTTG     5280

ACAGAGAAGG TTCGCAATAA ACCCTATTCC GTTCTCCTCT TTGATGAGGT AGAGAAGGCC     5340

CACCCAGATA TCTTTAATGT TCTCTTGCAG GTTCTGGATG ACGGTGTCTT GACAGATAGC     5400

AAGGGACGCA AGGTCGATTT TTCAAATACC ATTATCATTA TGACATCGAA TCTAGGTGCG     5460

ACTGCCCTTC GTGATGATAA GACTGTTGGT TTTGGGGCTA AGGATATTCG TTTTGACCAG     5520

GAAAATATGG AAAAACGCAT GTTTGAAGAA CTGAAAAAAG CTTATAGACC GGAATTCATC     5580

AACCGTATTG ATGAGAAGGT GGTCTTCCAT AGCCTATCTA GTGATCATAT GCAGGAAGTG     5640

GTGAAGATTA TGGTCAAGCC TTTAGTGGCA AGTTTGACTG AAAAAGGCAT TGACTTGAAA     5700

TTACAAGCTT CAGCTCTGAA ATTGTTAGCA AATCAAGGAT ATGACCCAGA GATGGGAGCT     5760

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AATTTTTATT CTTTCAAAAG AGACCTGTTT CTTTTTTGCA TGTCAAATCC GTTCTAGCTG     6240

GTATTTGAAA AATCAAACTA ATATTCAATG AAAATCAAAG AACAAACTAG GAAGCTAGCC     6300

GCAGGTTGCT CAAAACACTG TTTTGAGGTT GTAGATAGAG CTGACGTGGT TTGAAGAGAT     6360

TTTCGAAGAG TATAAGCTGC AAGATGAATG ATTTTCTTGT ATTGACGTTG TTGTTGACAA     6420
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862

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AAAGTAGCGG ATAAATGAAA TCCATTCCAT TATCATAGAT GATAGGCTGG TAGGAAATTT      6480

TCAAATAGCA TACAGGAAAT AGATGTATGG AGTTCTGGTA GTAGAAAGGG AGAGAGATGA      6540

ACATTTTAGT TGCAGATGAC GAGGAAATGA TTAGAGAAGG AATTGCAGCA TTTCTGACAG      6600

AAGAGGGTTA TCATGTCATT ATGGCTAAGG ATGGACAAGA GGTCTTGGAA AAATTTCAAG      6660

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AGGATCTTTG GCGATATCAG GATGTAACAG TGGATTTTAC CTCTTACAAA GCACATTATA      6960

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ATTTACCTTG TGATAGGGTC GTTGATGTCT ATATTCGTAC TCTTCGCAAA AAATTAGCTT      7140

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TAAATTATTA ACCAAGTCTT TTTTAAGAAG TTTTGCAATT CTAGGTGGTG TTGGTCTAGT      7260

CATTCATATA GCTATTTATT TGACCTTTCC TTTTTATTAT ATTCAACTGG AGGGGGAAAA      7320

GTTTAATGAG AGCGCAAGAG TGTTTACGGA GTATTTAAAG ACTAAGACAT CTGATGAAAT      7380

TCCAAGCTTA CTCCAGTCTT ATTCAAAGTC CTTGACCATA TCTGCTCACC TTAAAAGAGA      7440

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GCAATTTGTT CACGGGGTGG ATGTCTACAA AGAAGCAAAG AATATTTTGC TTTTGTATCT      7620

CCCATATACA TTTTTGGTTA CAATTGCTTT TTCCTTTGTT TTTTCTTATT TTTATACTAA      7680

ACGCTTGCTC AATCCTCTTT TTTACATTTC AGAAGTGACT AGTAAAATGC AAGATTTGGA      7740

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ATTAGAAGAA GTACTGGAGT CTTCTAAATT CCAAGAGTGG ACAGAGTGTC GTGAGACCTT      8100

GACTGTTAAG CCAGTTTTAG TAGATATTTT ATCACGTTAT CAAGAATTAG CTCATTCAAT      8160

AGGTGTTACA ATTGAAAATC AATTGACAGA TGCTACCAGG GTCGTCATGA GTCTTAGGGC      8220
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ATTGGATAAG GTTTTGACAA ACCTGATTAG TAATGCAATT AAATATTCAG ATAAAAATGG     8280

GCGTGTAATC ATATCCGAGC AAGATGGCTA TCTCTCTATC AAAAATACAT GTGCGCCTCT     8340

AAGTGACCAA GAACTAGAAC ATTTATTTGA TATATTCTAT CATTCTCAAA TCGTGACAGA     8400

TAAGGATGAA AGTTCCGGTT TGGGTCTTTA CATTGTGAAT AATATTTTAG AAAGCTATCA     8460

AATGGATTAT AGTTTTCTCC CTTATGAACA CGGTATGGAA TTTAAGATTA GCTTGTAGAC     8520

AGATTAGTTT TTTATTAAAG TTCATATAGG GTTAACATAA GTGTGTTATT CTTTGTGTAG     8580

ATAAAAGAAA GGATACTAAT ATGGTATTAG CGATTATTTT AGTAACATTC TTTATTCGAT     8640

TGATTTTTTT AAAGCGTTCG ATAGAGAATG AGAAACGAAT CCTTAGCAAT GGCGGGG       8697
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(2) INFORMATION FOR SEQ ID NO: 124:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 4317 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear


    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 124:

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AACCATACAT ACGGCAAGGC AAAGCTGACG CGGTTTGAAG AGATTTTCGA AGAGTATTAG      60

TTGCCTTTAA AGGCATCCAC CATCGTTTGA AATTCTTCAT TTGAGAGAGT AATCCCTTTG     120

CCCATTTTAG TATGGTCTGG ACTCCAAGCA CGAATATCAA ACTTTGCAGG GGCACCATTA     180

AAGCTCACAC GGTTAATTTC CTTGGTCCAA CCTTTTTCGT TTTCAGAAAG AGTCAACAAG     240

TGCTCTTCGA TTTCAAATGT AAATTCTGCC ATTTTCTTCT CCTTTTTTAG TTTCATTAGT     300

TTATTCGTAA AATCTTGTAG ATTTTAGGAA AATTTTATAT AATATTGATA TAAAAGAAGG     360

GAGGCCAATA TGAGACATAA ATTCCAGCAA GTTCTAAATA AAATACATGA TTTTTTAAAT     420

GGATATGACC AACCTGACCA GACTGAAACC AACTCCCTTA CAGCCACTAT TGAAGAGGCT     480

ATCCAGAAAC AAACCGCTGT TCACCTTATC TTGTCTGAGA CAAGCTTTAC AGGTGACATC     540

ATCAAATATG ATCAGCAAGG CCAGCAAATT ATCGTGAAAA ATTTTTCCAA AAATGTGAGC     600

CGGATTATCC GTATAAGCGA TATTCAACGC CTGCGATTTG TCCCCTCAAC TGTCCAAACA     660

GCCCAAAAAA ATAGATTTAA GAAAGAGTGA GATGTAGTTG CTTCATCCCA CTCTTTTTTC     720

TTAGCGAATT TGTTCAAAAT GTAAATGAAC TGCGATATGA TCTCCATAAC CACTTCTTTC     780

CAAGTCACGT TGTAAACGAT AGGAAATGTA GTGTTCTGCA ATGGTAATGT AACCTGCGCC     840

CAATAAACGA TGTTCAACCA TAGATTGAAT CATACTGATA GTCGCACGTT CCACCTTGGC     900
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864

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TTCTTGTAAA TCCAAAACTA CCTTCTTAGT GACTTGAGCA AGATTTTGAC GCAAATCATC      960

TGTCAAAACA TAAACAGTTT GGGCTGCCTT CAAGATGGCT TGGTAAATCT TATCTGGATT     1020

AAATTCAGCA ATTTCGCCAT TACGTTTGAT TACTTGCATA GGTTTCTCCT TTATTCTTTG     1080

TTTTCTTTGA TTTCTGCCAG CATTTTTTCT TCTTCTACTG TCAGTTGATA ATGTTCAAGT     1140

AAATCCGGTC TGCGCTCGTA GGTTTTCTTT AAACTCTCGT ACAATCGCCA CTGACGAATC     1200

TTTTCATGGT GGCCACTCAT CAATACATCT GGCACGACCA TGCCTCGATA ATCATAGGGA     1260

CGTGTGTACT GAGGATATTC TAAAAGACCT GAAGAAAAAC TATCATCTTG GTGGCTAGAC     1320

TCCTTGCCAA TCACTTCTGG AATCAGGCGA ACTGTAGCAT CAATCATGGT CATAGCTGCC     1380

AATTCTCCAC CAGTGAGGAC ATAGTCACCT AGGGAAATCT CATCTGTTAC CAAGGTCTTA     1440

ATGCGCTCAT CATAACCCTC ATAGTGCCCA CAGATAAAGA TTAGCTCTTC CTCTTGAGCC     1500

AAATCTTCAG CATAAGCCTG ATCAAACTGC TTTCCAGCAG GATCAAGGAG AATAACGCGC     1560

GGATTTTTCT TTTCAATAGC ATCAAAGGAA TCGAAAATAG GTTGTGCTCT GAGCAACATG     1620

CCCTGACCGC CTCCGTAGGG CTCATCATCT ACATGACGGG CCTTTTCAGC ATTTTCTCGA     1680

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TCCAGTGGAG AAAACATCTC TGGAAGAGG GTTAAAATAT CAATCTTCAT CGTCTAACCC     1800

TTCTAAGATT TCCACATCGA CCCGTTTACT TGGAATATCA ACATTGAGAA CCACTGGTGG     1860

GATATAAGGT AAAAGCAAAT CACGTTTGCC TTTTCGTTTG ACCACCCAGA CATCATTAGC     1920

ACCTGGTTGC AGGATTTCCT TGATGGTTCC AACCAAGCTA TCACCCTCAT AGACTTCCAA     1980

ACCGATAATC TCGTGATAGT AAAATTCACC ATCGTCTAGG TCATTCAAAT CTTCCTCAGC     2040

GACCTTGAGA CTGTATCCCT TGTACTTTTC GATAGTATTG ATATGGTACA TATCTTTGAA     2100

TTTAATAATG TCAAAGTTCT TCTGTTTACG GTGGCTAGCG ATGGTCACTG TTTGGACAAA     2160

CTGATCTTTT TCATCAAACA AAACCAGCTC AGCTCCTTTT TTAAACCGTT CTTCTGCAAA     2220

ATCCGTCACA GACAAGACTC GCATCTCCCC CTGTAATCCC TGCGTATTAA CGATTTTCCC     2280

AACATTAAAG TAGTTCATCT TGTCTCCTGT AATCTCCTTT TTTCCATCTT ATTCTAACAA     2340

TTCTCGAATA ATAGCCGCAA TTTTTTCCGA TTCTGACCAT TGTAAATAAT GGTGATTCCC     2400

TCCTAAAATG AGTTTAGTAT TGGAAGTCCA ATATTCTGAT TCTCTGTACT CTTTTTCTCT     2460

ATAAGGCTGA CAAAAAACAA ATACAGGAAT ATGAGCTTCT ATAGATACAT CCTCAAAATC     2520

TTCCTCAGTA ATCTCTCCAG ATATCTGAAA TTCTGGATCT TGATTTTCCA ACTCTAAGCC     2580

TTTTTCTTGC ATTAATTCCC AGATTTTTTT ATTCGTTTCA GGACTAAATG TTGCTTGAGT     2640

TAAGTTCTTA AAATAAAGTT CAGGACCACA CTCGTCAATC AGCCTCATCT GCTCTTCCAT     2700
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865

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TTCTGGATAA GGATTTTCTG AAAAATCAGC AAACATGACT TTTTTAGTTG TCGGTTCAAT      2760

TGCTACTAAA GTCTGACGCT TAATTGGTTT CTCGAGTAAT TTGCAAGCTA AAATTCCACT      2820

CCAACTATGT GCACAAAGTA TATATTCAGA AATTCCTAAT TCTTCAAGTA CTTCATAAAC      2880

CGCATCTGCA AGATTATCTA GATTTTTTCC AGCTTGGTCA TGAATCGGAC TCCTACCTGT      2940

GTTCGGAAAA TCAATTGTCA AATAACCAAT TGTAGGAGGA GGTTTTTCAA GTATAAGTGA      3000

AAAATTTTCA TAACTTGGTA GCAAACCTGC TCCGTTTAAA CAAACTAGCA CTTTCTTTTG      3060

CTTTTGATAA GTAACAGAGA GGCTACCAAT TTCTGTAGAT ACTTCAAACC TCTTCATAAA      3120

GAAATCCACT GATTCTATAT AATGAATTAT TAAAAATCCT TATCCTTTAT TTTATCACGT      3180

TCCAAGGATT TTCTCAAGTT GGAGGAAGGG GACAATATCT CTACTTTCCC TTCAATAATC      3240

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TCTTGGTAAG GTCAATATGA TTAATAGCTA CGATTGCGAC GGTGTAGTAA ATGATATCAG      3360

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ACACAAAAAA GCGAGACATC CGTCCCGCCC TTCTTATTTT TCGTCAATAA CGATTCTTAC      3720

TTTTTTGTAT TCAGTTGGGA CAGAGTAGAC AATCGTTCTT ATCGCAGAAA TAGTGCGACC      3780

CTTACGACCG ATTACACGAC CCACATCGCT TTGATCAAGA TTCAAATGAT ATTCCAAAAA      3840

TTCTGGTGTA TCCTCAATCT TGATAGTTAA GGCATCTGGT TGTGAAATTA AGGGTTTCAC      3900

AATCGCAATA ATGAGATTTT CAATCGTATC CATCTGTCAA CCTACTTTAA ACTTATTTTG      3960

AAAATTTAGA ATCGTGGAAT TTTTTCAATA CGCCTTCTTT TGAAAGGATG TTACGTACTG      4020

TGTCTGAAGG TTGAGCTCCA TTAGCCAACC ATGCAAGAAC GCGGTCTTCT TTCAAAGTTA      4080

CTTGGTTTTC AGCAACAAGT GGGTTGTAAG TTCCAACTGT TTCGATGAAA CGTCCGTCAC      4140

GTGGTGAACG TGAATCTGCT ACGTTGATAC GGTAGAAAGG TTTTTTCTTA GAACCCATAC      4200

GAGTCAAACG GATTTTAACT GCCATTTTTA AAGTCTCATT TCTTTAATTT TTTATTTCGG      4260

TGAAATAGCT GAGCTATTTA GCACATGTTC TATTATAGCA GATTTCTGGC ATGTGTC        4317
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(2) INFORMATION FOR SEQ ID NO: 125:

        (i) SEQUENCE CHARACTERISTICS:
            (A) LENGTH: 4881 base pairs

866
    (B) TYPE: nucleic acid
    (C) STRANDEDNESS: double
    (D) TOPOLOGY: linear


      (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 125:

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AATTTATTTG ACTGGAAATT GTAGAGGGTT CTCGAAATTT CTTGAATGGT TAAAATAAGG        60

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CAACCTGAGG AAAGCAGTGA TTCTTATTTT AGGAGTTAGG AATGAATACA CGAAATCAAT       180

TTAGCTGATT ATTTTTTGTT TTTCAAGAAT TCATCGTATT GTTTTTGCAT TTCGTTCAAT       240

ACTTTTTCGT AGGCACCTTC AGATTTCAAT TTTTCCATCA ATTCTGGAAT CGCTTTATCT       300

GGGTCTACAG TACCAGTGTT GATAGCTGTA TCAAATTGTT GCATTGTGTT AGCAATAGCT      .360

GAGATTTCAG ATTTCACATT GTCAGTATTG AAGATAAATC CAAGCGCTGG AGATTCTTTA       420

GCTTCTGCCA ATTCTTTCTT AGAATTTTCG ATTTGTTGGT CTGTAACGTT TTCGTTGATG       480

TAAAGGATCC AGTTGTTACC AGTGTTCCAT CCACCCATGT GAGTGTTTCC TTTGTAGCCA       540

TCAAGAACGC GAACACGGTT TTCTTTACCT TCAATTTTTT CCCAGTTCTT GCCTTCTGGA       600

CCGTAAACAA GACCGTTCAA GAGTTCTGGG TTCGTATTCA AGAGGTTCAA GATTTCCATT       660

GATTTTTCTT TGTTCTTAGA GTTGTTTGAG ATGACAAAGT TAGCAACTTG TGTTGTTTGG       720

TTTTTCTTGA TGAAGTTAGT AATTGGTTTG ATTTGGATAT CTTTGTTGGC AACACGTGAA       780

AGCAAGCTGT TACCGTAGTC AGCTGGTCCT ACTGTTTCTT CACGAACGAA CCAAGTATCT       840

TGTTGAAGGT CAAAGGAAGT ATCGCTTGTT GCGACGTCTT TTGGAATGTA GCCAGCTTCA       900

TAGAATTTGT GAAGAGTCTT CAAGTGTTCT TTGAAACGAG GCACTTCGTA ACGGTTTACA       960

ACTTTAGTAG TATCGCCTTC AAGGTCGATA ACGAATGGAA GACCGTTTGC TACTGGGTAG      1020

TCAAAATTAT CAGATGGGAT GAAAACTTTA CCAATAGCAA ATGGTACTAC GTCTGGAGCT      1080

TTTTCTTTGA TTTGTTTCAA GACTGGCTCA AGAGTTTCGT AAGAAGTAAC ACCTGAAATA      1140

TCGATACCAT ATTTAGCAAG GAGAGTTCCG TTGAAGGCAA AGTTTTGAGA TGATGCAACG      1200

TTGGCTGCAA CTGGAACAGC GTAAATCTTA CCATTTACAG TATTACCCTT GATGTAAGCT      1260

GGGTCAAGTG CTTTGTAAAG GTCTTTACCT TCTTTTTTGT ACAATTCTGT CAAGTCAGCG      1320

TAAGCACCTT TTTGAGCATT TACAATATAG TTATCTGCAA AGGCAATATC ATAGTTTTCA      1380

CCAGATGATG TGATAACTGA CATTTTCTTA CCATAGTCAC CCCAGCCAAG GTATTGGATA      1440

TCCAATTTGG CACCAACTTT TTCTTCAATG ATTTTGTTGG CATTTGCTAA CAATTCATCC      1500

AAGTTGTCTG GTTTGTCACC GATTTGGTAC ATTTTGATAA CAGGTTTGTC ACCTGAATCA      1560
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867

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GCAGCTTTTT TGCTGTTACC TGTCAAATTT CCACAAGCAG CAAGACCTGC AGCCAGAGCG      1620

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GAAGTCAGTT ACATATATCT ACGGCAAGGC GACGTTGACG CGGTTTGAAT TTGATTTTCG      1860

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GGGCGTTGAA CCAGTCATTC CAGAAACCAA GAGCTGTTAA GAGCGTGATG GTTGCGATAC      2220

CTGGTAGTGA CAATGGCAAA CAGATTTGGA AGAAAATCCG GGCCTCACTG GCACCATCGA      2280

TACGAGCCGA TTCTAGAATG GCTTCTGGAA TGGTCTTCTT GAAGAAGGAA CGCATCAAGA      2340

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GAAGGACGAA GATGGTAAAG AATCTGCGAT ACTTAAAGGT TGTCCGTGAA ATAGCGTAGG      2520

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AAGAGACCGA AGTCTGCGCG GAAGATATTT CCGACTGCAA GGATGGTCAA TACAGTTACA      3120

AGCGGAGTCA ACTGAGGAAT GGTTACGTTG CGAATACGTT GCCACTTGCT AGCTCCGTCC      3180

ACTGTCGCTG CTTCGTAGTA GGTTGGATCA ATTCCCATGA TCGTCGCATA GTACATGACA      3240

CTGCTATATC CAAAGCCTTT CCAAATACCT AGGAAAAGTA GGAGATAGGG CCAGATGCCC      3300
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868

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CCTTTATCAA TATTTAGGAA GGCATCTGTA AAGAAACTGA TGATAACCCA AGACAAGAAG        3420

TAAGGGAACA ACATAGAAGT TTGAAAAATC TTCACCATTC TCTTAGAACG GAGCTCGCTG        3480

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TCGAGTCCGA CCCATTTACT ATTTATGATA CTATCTATGA AACCATTACT GGTCATGTGG        3660

TAGTCTTTGA AGGCAACCAC GTTCCCAAAT ACTGGAATGT AAAAGAATAG AATCAACCAG        3720

AGTGCCCCTG GCAAAACCAT CAAGAGAAAG ATCCAGTTGT CTCTCAATGT TTTTGAAAAC        3780

TTTTTCATAA TTTCCTCCCT TTTTATTTTG ATATCCATCT AAAAATTCTT TTTTAGACTT        3840

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TAGAAAAAAC TCCACAAATT ATGTAGCAGA TTTAAAACTT TATCACCACT ATCAAACAAA        3960

TGTCCTAAAT CAATTGTTTA TTTTATCTCT ATTAGCCCAG TGATGGCGTC ACTCTGTTAT        4020

AAGCATCCAA CAACGGGGTA TACTGAAAAA TCTCCAGACT AGGGAACTCA GCGATAGTTC        4080

CTAATCTGGA GATTTTTAAT ATGTTATTAG GCGTTTGCTT TCAACTTAGC AATAACCTCT        4140

TTAAGATTAT CAATCAACTC TGCTGCAGTA TGCTCAGAGC CTTTTTCATC TGCCAAGAAC        4200

AAAACTGCTT TTTGAAGTTC TTTTTGAGAG TTTTCAAGGA CATCCTTATC TACTGTTTCA        4260

AGGTTTGAGT CTTTAAGAAG TTTACTTAAT TCCTTGGCTA ATTTCTTGAG TTTGATTTGC        4320

AGACTCATCT TCTCCTGCTG TTTCTTTGCC CGCTGTTTGT CCTCCATCCT TAGTTGCTGA        4380

CTGGCTTTCC TTAATGGACT CTAGGGAAGC AATGGCATCT TTGACTGTTT GCAAGATATC        4440

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CAGACGTGCT GAATCTGTGG TAGGATTCGA TACACCTGTC AATGATCTCA AAAGATTTTC        4560

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TATGAAATCA ACTAAAGAAG AAATCCAAAC CATCAAAACA CTTTTAAAAG ACTCTCGTAC        4680

AGCTAAATAT CATAAACGCC TTCAAATCGT TCTATTTTGT CTGATGGGCA AATCTTATAA        4740

AGAGATTATA GAACTTTTAT AGTAGTTTGA AATAAGATGT GAACATCTCT ATCAGGAAAG        4800

TCAAATTAAT TTATAGAAAT ATTTTAGCAG CCAAGGTGTA CTGTTATAGA TTCAATACAC        4860

TATACTTGGT GGTTTAGCTC G                                                 4881
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(2) INFORMATION FOR SEQ ID NO: 126:

       (i) SEQUENCE CHARACTERISTICS:
           (A) LENGTH: 13121 base pairs
           (B) TYPE: nucleic acid

869

(C) STRANDEDNESS: double
(D) TOPOLOGY: linear


(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 126:

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AGGATCCCCG GAAAAGGAGA CTAAAAATGA AGAAAAAATT TCTAGCATTT TTGCTAATTT        60

TATTCCCAAT TTTCTCATTA GGTATTGCCA AAGCAGAAAC GATTAAGATT GTTTCTGATA       120

CCGCCTATGC ACCTTTTGAG TTTAAAGATT CAGATCAAAC TTATAAAGGA ATTGATGTTG       180

ACATTATTAA CAAAGTCGCT GAGATTAAAG GCTGGAACAT TCAGATGTCC TATCCTGGAT       240

TTGACGCAGC AGTCAATGCG GTTCAAGCTG GGCAAGCCGA CGCTATCATG GCAGGGATGA       300

CAAAGACTAA AGAACGTGAA AAAGTCTTCA CCATGTCTGA TACTTACTAT GATACAAAAG       360

TTGTCATTGC TACTACAAAG TCACACAAAA TTAGCAAGTA CGACCAATTA ACTGGCAAAA       420

CCGTTGGTGT TAAAAACGGA ACTGCCGCTC AACGTTTCCT TGAAACAATC AAAGATAAAT       480

ACGGCTTTAC TATTAAAACA TTTGACACTG GTGATTTAAT GAACAACAGC TTGAGTGCTG       540

GTGCCATCGA TGCCATGATG GATGACAAAC CTGTTATCGA ATATGCCATT AACCAAGGTC       600

AAGACCTCCA TATTGAAATG GATGGTGAAG CTGTAGGAAG TTTTGCTTTC GGTGTGAAAA       660

AAGGAAGTAA ATACGAGCAC CTGGTTACTG AATTTAACCA AGCCTTGTCT GAAATGAAAA       720

AAGATGGTAG TCTTGATAAA ATTATCAAGA AATGGACTGC TTCATCATCT TCAGCAGTGC       780

CAACTACAAC TACTCTCGCA GGATTAAAAG CTATTCCTGT TAAGGCTAAA TATATCATTG       840

CCAGCGATTC TTCTTTTGCC CCTTTTGTTT TCCAAAATTC AAGCAACCAA TACACTGGTA       900

TTGATATGGA ATTGATTAAG GCAATCGCTA AAGACCAAGG TTTTGAAATT GAAATCACCA       960

ACCCTGGTTT TGATGCTGCT ATCAGTGCTG TCCAAGCTGG TCAAGCCGAT GGTATCATCG      1020

CTGGTATGTC TGTCACAGAT GCTCGTAAGG CAACTTTTGA CTTCTCAGAA TCATACTACA      1080

CTGCTAATAC CATTCTTGGT GTCAAAGAAT CAAGCAATAT TGCTTCTTAT GAAGATCTAA      1140

AAGGAAAGAC AGTCGGTGTT AAAAACGGAA CTGCTTCTCA AACCTTCCTA ACAGAAAATC      1200

AAAGCAAATA CGGCTACAAA ATCAAAACCT TTGCTGATGG TTCTTCAATG TATGACAGTT      1260

TAAACACTGG TGCCATTGAT GCCGTTATGG ATGATGAACC TGTTCTCAAA TATTCTATCA      1320

GCCAAGGTCA AAAATTGAAA ACTCCAATCT CTGGAACTCC AATCGGTGAA ACAGCCTTTG      1380

CCGTTAAAAA AGGAGCAAAT CCAGAACTGA TTGAAATGTT CAACAACGGA CTTGCAAACC      1440

TTAAAGCAAA CGGTGAATTC CAAAAGATTC TTGACAAATA CCTAGCTAGC GAATCTTCAA      1500

CTGCTTCAAC AAGTACTGTT GACGAAACAA CGCTCTGGGG CTTGCTTCAA AACAACTACA      1560
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                                        870
AACAACTCCT TAGCGGTCTT GGTATCACTC TTGCTCTAGC TCTTATCTCA TTTGCTATTG          1620

CCATTGTCAT CGGAATTATC TTCGGTATGT TTAGCGTTAG CCCATACAAA TCTCTTCGCG          1680

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TCATCTTCTG GGGAATTCCA AACTTCATCG AGTCTATCAC AGGCCAACAA AGCCCAATTA          1800

ACGACTTTGT AGCTGGAACC ATTGCCCTCT CACTCAATGC GGCTGCTTAT ATCGCTGAAA          1860

TCGTTCGTGG TGGTATTCAG GCCGTTCCAG TTGGCCAAAT GGAAGCCAGC CGAAGCTTGG          1920

GTATCTCTTA TGGAAAAACC ATGCGTAAGA TTATCTTGCC ACAAGCAACT AAATTGATGT          1980

TGCCAAACTT TGTCAACCAA TTCGTTATCG CTCTTAAAGA TACAACTATC GTATCTGCTA          2040

TCGGTTTGGT TGAACTCTTC CAAACTGGTA AGATTATCAT TGCTCGTAAC TACCAAAGTT          2100

TCAAGATGTA TGCAATCCTT GCTATCTTCT ATCTTGTAAT TATCACACTT TTGACTAGAC          2160

TAGCGAAACG CTTAGAAAAG AGGATTCGTT AATGGCAAAA TTAAAAATTG ATGTAAATGA          2220

TTTACACAAG CACTATGGAA AAAATGAAGT CCTAAAAGGA ATTACGACTA AGTTCTATGA          2280

AGGAGATGTT GTTTGTATCA TCGGTCCTTC AGGTTCTGGT AAGTCAACTT TCCTCCGTAG          2340

CCTCAATCTT TTAGAAGAAG TCACTAGCGG TCACATCACT GTGAACGGCT ATGATTTAAC          2400

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TTGCTAGCCA CTTCTACTAT CAAAGCCATG ATGTCAATGA TTCGGAACAT TATATTGCTT          3360

871

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TGCGTCAATT ACAAGCTGAG CTTAATGAAA AATACCAAGC TGAACACAAT AAGCTCTTCT        3420

TCTTGTCTAT GGCACCTCAG TTCTTTGGAA CCATTGCCAA ACACCTCAAA TCTGAAAACA        3480

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TCAGGTCCAG TTACTACTGG AACATCTACT CGTCGGCCCC ATTCAGCTAG CTGAGCTACT        5100
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872

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AATACGACCT TGATACCACG ATCACGCGCA gCTTGCAAGG TTTCCTTGGT ACGATCCGTC    6660

AGCCTTTTAT CAGTAGTCAG CAAGGTCCCG TCCAAGTCCA ATGCAATCAA TTTTATATCT    6720

GCCATTATAA GCCCTCCATA TAAGCTATAA CCGACCGTTC CTTATGGTGA CCAATCACAG    6780

TCTTTGCTAA TTCTAAAATT TCAGGTCGTG CATTTTCAGG AGCTACAGGA TGTCCCACAA    6840

CCTGCATCAT ATGTAAGTCA TTAAGATTGT CTCCAAAAGC CATGACCTGA TCCATTGTGA    6900
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873

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TACCAAGTTT TTTAACTAAT TCAACAATGG CCACTCCCTT ATCGACATAG TCCAGAACAA        6960

TATCAATGGA TTCAAAGCCA GTTGTCATGG CCTTAACACC AGGAACGTTT TCGTTTACCC        7020

AAGCCTCCCC ATCTTCCAGC GTTTCTTCTG TGAAGTTGGT TGTAAATTTG AAAATGTCAT        7080

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TCAAATAGGT CTCATCAACC GTATCTAGAA CATATGAACC CTTCTTACCC GTCAAGAGCA        7200

GTTTATTGAT ATCTACATAA GGTGAAGTTT TCAGCTTTTC AAAAGTTGCC AGATAAAAGT        7260

CACGAGACAT AGTCGCTTCA TACAAGTCCT GACCTTGATA CTCTACCAAA CTGCCATTTT        7320

CCGCGATGAA AATAATGTCA TCACGAACAC CAGCAAATAA TTTTTCTAGA GACAGAAATC        7380

CCCGACCCGA AGCTACCGCA AAGTAAATCC CTTTTTCCTT GTAGGAAACC AAGAGAGACT        7440

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CTTTGAAACA CCCGATTCTT GCATGGTCAC TCCATAGATG GAATCAGCCG CTGCCATGGT        7620

TCCCTTACGG TGGGTTACGA CGATGAACTG GCTGTCCTTG TCAAAGCGGT TGAGGTAATC        7680

CCCAAAACGT TTAACATTGG CTTCATCCAG CGCAGCTTCC ACCTCATCCA AGATAACAAA        7740

TGGAATAGTC TTGACACGAA TAATGGAGAA GAGCAAGGCA AGAGCCGATA GGGCTTTTTC        7800

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AATAGCGTCT AAATTGACAG GACCCAGTGA GCGTATAGCC TTCTCTAAAT CCTTAACTTC        8160

TTGCTCTGCC AGATTGAGAT TTTCCAACTC ATGCGCCTTT TCTAAAGCTT CTGTGTAGCT        8220

GATCTGGTAC TGGTCTGTTA ATTGACTTTG TAGATGGCGC AAGCGCTCGC TAACCTTTTC        8280

TTTCTTGGCT TCAGCACGAG TTTGCTTGCG AATCCACTCT TCATTCTGCT GGCGAGCCTG        8340

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TTCATAACGT TTTTGCCCTT GCAGTTCTGT CTTAAGCAAA CGAGCTTGCG CTAGCTCTTC        8640
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874

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CTGCAAGTTT TGATAGCGTT CTTGGATGGC ATTTTTGTTA GACTTAATCT CTTCAATCTC        8700

AGCTTCCAGA TTTTGCTTGT CACTGGAGAT TGCAGCAAGA CGCTCTTGGC AGTTTTCCTT        8760

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TTTAAGGAAG TCAATAGCCT TGGTTGCCGA CTCTTCATCT TCTACGATGA TATGCTGGCT        9420

ACTTGCCCCT AAGGCAATCT CTAGGGCAGT TTGATAATAA ACATCAAAGG TCAGATGCTC        9480

ACTGACTGCA CCAATAATCC CACCTAGGCG ATCTTTTTCT TGGAGAACAC TCTTAACACC        9540

TGCATAAAAG TTACTATGAT TTCTCAGGAT ATTTTCCAAA CTTTGAGCTC TGGCCTGCTT        9600

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TAATTTTTCA CGCTTTTGGT AATAACTCAT CAAGAGTTCT TGAACCTGAG TCAACTCTTC       10320

TTCTGTCGAC TCTAGTTCAG CCTTATTTTC CTTGATTTGA GCAACCAGAA CATCTAAATA       10380

AATAGCCTTA CGTTGTCCTT CCAAGTCTAA AAACTTACGG GCATTCTCAG CTTGCTTCTC       10440
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875

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AGCAGCTTCT TCAAAAATAG CTCGTCGTTC CTCAGGCTTG GAATTAAAAA TCTCCTCAAC    10620

CTTCCCTTGG GAAATAATAG AGAAGGAATC TCGTCCCAAT CCAGTATCCA AGAAGAGGTC    10680

ATGAATATCA CGCAGACGGA CTTTCTTGCC GTCAATCTTG TATTCGCTAT CTCCACTACG    10740

ATAGACATGG CGTTCCACCC TGATTTCTTG ACCTGCATCC TTGATAAATC CGTCATGATT    10800

ATCCAGAGTC ACAACTACAG AAGCATAATT GAGCGGTTTG CGACTTTCGG TTCCAGCAAA    10860

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TCACGATTGC GACCACCTGA TTTTTCTTCC CCTTTACCCA ACTTGATAAA CTGGTCAAAC    11460

TGGCAATCAC GCGCAAAACC AGCTAAACTC TCCTCACGGA CAATCATAGC ACGGAGTTTT    11520

GATAGGTCAC CTTCAGGCTT TTTAGGATAT TTTTTATATA GATATTCTGA AATCAATAAC    11580

TGTAGAACAG CGTCTCCTAA AAATTCCAAG CGTTCATTGT GTGAAATTTT TAAGAGGCGG    11640

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ACTTGTTTTA TTATAACAGA AATTTGCTCT AATAACAAGT TTTTTGGTCA AAGACCCCGT    12060

CTTAGTGGGA AGCATCCCCA TTCCAGATGG AGTTTTTCAC GATCACATAA TCAACGTGTT    12120

TAAGGTCAGC AACCTGACGT CCACCTGCAT AAGAAATAGC ACTTTGAAGG TCTTGTTCCA    12180
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876

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TCTCAGTTAA AGTGTCTTGC AGATGACCTT TAGCAGGAAG CAAGATACGT TTGCCTTCCA    12240

CATTTTTGTA AGCACCTTTT TGATATTGTG AGGCTGAACC ATAATATTCT TTGAACTGTT    12300

CACCATCGAC TTCAATCGTT TTCCCTGGAC TTTCAATGTG TCCTGCAAAG AGGGAACCAA    12360

TCATGATCAT GCTAGCACCG AAGCGGATAG ACTTAGCAAT. ATCACCGTGA GTACGAATTC    12420

CTCCATCAGC GATAATCGGT TTACGCGCAG CCTTGGCACA CCAGCGTAGA GCAGCCAACT    12480

GCCAACCACC TGTACCAAAA CCAGTCTTAA CCTTGGTGAT ACAAACCTTA CCAGGACCGA    12540

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CCACATTTCC AGCAATGACA AAGGTATCTG GCAATTCTTT CTTGATGTGT TGAATCATAG    12660

AAATCACGCT ATCCGCATGA CCATGAGCAA TATCAATAGT GATATACTCA GGAGTATCAG    12720

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TGAGCCCTTG ATTGTGCATT CGTTTAATAA AAGGAATGCG TCCTGCCTCA TCAAAACGGT    12840

GCATAATGTA GAAGTAACCA CCTTTAGCCA GTTGCTCTGC TACATTTTCA TCCAAAATCG    12900

TCTGCATATT CGCTGGCACA ACAGGTAGTT TAAAGGTGTG ATTTCCTAAA GTGACACTTG    12960

TATCCGCTTC TGCACGGCTT TTAATGACAC ATTTATTTGG AATCAATTGA ATATCTTCGT    13020

AATCAAAAAT TGGAAATTCA TTTAACATAT CGATGTCTCG TTTCTTTTGT AATGACCTAC    13080

CTATGCTCTT GCATCACTAC GCCTTTTCCG ACGTTTCCTG G                        13121
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(2) INFORMATION FOR SEQ ID NO: 127:

     (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 9578 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear


     (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 127:

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CCGAATGCAA TGTTTACGGT TGAACTTGAA AATGGACATC AGATTTTAGC AACAGTTTCT    60

GGTAAAATTC GTAAAAACTA TATTCGTATT TTAGCGGGAG ATCGTGTTAC TGTCGAAATG    120

AGTCCATATG ACTTGACACG TGGACGTATC ACTTACCGCT TTAAATAATC GAAAAACTTG    180

GAGGGATAAG AAATGAAAGT AAGACCATCG GTCAAACCAA TTTGCGAATA CTGTAAAGTT    240

ATTCGTCGTA ATGGTCGTGT TATGGTAATT TGCCCAGCAA ATCCAAAACA CAAACAACGT    300

CAAGGATAAG ATAGAAAGGA GAAAACATGG CTCGTATTGC TGGAGTTGAT ATTCCAAATG    360

ACAAACGCGT AGTAATCTCA TTGACTTATG TTTATGGTAT CGGACTTGCA ACATCTAAGA    420

AAATTTTGGC TGCTGCTGGA ATCTCAGAAG ATGTTCGTGT ACGTGATCTT ACATCAGATC    480
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877

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AAGAAGATGC TATCCGTCGT GAAGTGGATG CAATCAAAGT TGAAGGTGAC CTTCGTCGTG    540

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GTCGTGGACT TCCTGTCCGT GGACAAAACA CTAAAAACAA CGCCCGCACT CGTAAAGGTA    660

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TTCTGAAGCT GCTGCTAAAT CTGCACAAGA ACACGGTCTT AAATCAGTTG AAGTTACTGT    960

AAAAGGTCCA GGTTCTGGTC GTGAGTCAGC TATTCGTGCG CTTGCTGCCG CTGGTCTTGA   1020

AGTAACAGCA ATTCGTGATG TGACTCCAGT GCCACACAAT GGTGCTCGTC CTCCAAAACG   1080

TCGCCGTGTA TAATCATCGC ATTACACTGC TTTTCGTTTA AGAGGGAGTA ACTAAATGAT   1140

CGAGTTTGAA AAACCAAATA TAACAAAAAT TGATGAAAAT AAAGATTATG GCAAGTTTGT   1200

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AACGAATCAA TCGTGACAAC TGAAGCTCGT GCTAAAGAAA TCCGTAAAAC TGTTGAAAAA   2220
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878

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ATGATTACTC TAGGTAAACG TGGTGATTTG CATGCACGTC GTCAAGCAGC TGCTTTCGTA    2280

CGTAATGAAA TCGCATCTGA AAACTATGAT GAAGCAACTG ATAAGTACAC TTCTACTACA    2340

GCACTTCAAA AATTGTTCTC AGAAATCGCA CCTCGTTATG CTGAACGTAA CGGTGGATAC    2400

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GTTTCTTATT TTAAGAAGAA TTGGAGTTTA CTTATGAAAG CCATTATAAC TGTTGTTGGT    2760

AAAGATAAAT CTGGAATTGT TGCAGGTGTT TCTGGTAAAA TTGCAGAATT AGGATTGAAT    2820

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ACGACGGCTG CCTTGGCCCT CTTGAACGAC CAAGTTAAAA AGGGTGGAGT GATGGCCTGC    3960

AACCAAGTCG GTGGTTTATC TGGTGCCTTT ATCCCTGTTT CTGAGGATGA AGGAATGATT    4020
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879

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GCTGCAGTGC AAAATGGCTC TCTTAATTTA GAAAAACTAG AAGCTATGAC GGCTATCTGT    4080

TCTGTTGGAT TGGATATGAT TGCCATCCCA GAAGATACGC CTGCTGAAAC TATTGCGGCT    4140

ATGATTGCGG ATGAAGCAGC AATCGGTGTT ATCAACATGA AAACAACAGC TGTTCGTATC    4200

ATTCCCAAAG GAAAAGAAGG CGATATGATT GAGTTTGGTG GTCTATTAGG AACTGCACCC    4260

GTTATGAAGG TTAATGGGGC TTCGTCTGTC GACTTCATCT CTCGCGGTGG ACAAATCCCA    4320

GCACCAATTC ATAGTTTTAA AAATTAAGAA AATAGGAGAA ATTTTAAGTT CTATTTAAGA    4380

TTAGACGTGT ATACTATAAT CATTAAATAA AGACCTCCTA ATATTATTTG AAACAGATAA    4440

CACTGAATTA GTTTGAATTT GATTTTCATC TAATATCTTT ATTTAATGAA CTCCTAAACT    4500

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TGTGACTCAA GATAAGATGG CTCCAGAAAT GATACCAGAT AGCATCATTG GAGTTGTAAT    5640

CTTAGCAAAG GTATTGAGAC GACTACTTCC TAAGCTTTCA GCAGCTTCTT CAATACTTGG    5700

TGCTATTTGT TGTAAGCTAG CAACAGATGA GCGAATAGTA TAAGGTAATC TTCTGGCAGA    5760
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880

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ACCAGTATTG AAGGAAGAAA TGAAGGCAAT CCCTAGAACG GTTCCTGGTA CAATATAAGG      5880

TACCATACTG AGGCTGTCAA TTAAGTTTGT AAACAAATTC CGTTTTCTAA CGGCTAGGTA      5940

GGAGATAAAT GTCGCAAATA GAACAACTAG AACTAAGGCA ATCAAAGGGA TACGAATGGT      6000

ATTGAAAATA GCAGATCCCA TACGATGGAA AGCTACCTTG TAACTGTTTG GAGAATAACC      6060

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TGTAGTTTTT TTAGGCTCAA TTGGATGGAG CAGATTCATG CTGAAACTGT AGCGGTTTGC      6240

AATGTGTTTT TGGATAAGGA AAATTGCCAA GGCAATGATA ATCGCCATAA TTGCAAAAGC      6300

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GATAAACTCT TCGGGACGAA TGCTTACATG AATAGCTTGC TCCTCAACCT GATCAAGAGC      7320

TGGCATTCGA AGGGCATAGC CATCTGAAAA GACGATATAA GCGCCGTCGC TCCGTTTTTC      7380

AAGATTGGCA GGGATAATAT TTGTGCGTCC GATAAAGGTT GCCACAAACT CATTAGCTGG      7440

TTTATGATAG AGTTCTTTTG GTCGGCCGAT TTGTTGGATC ACCCCATCTT TCATAACAGC      7500

AATTTGGTCT GAAATAGCCA TGGCTTCTTC TTGGTCGTGG GTTACATAAA CAGTTGTAAT      7560
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881

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TCCCACTTCG TGTTGGATTT CTCGGATGGC TTGACGCATA TCCAAGCGAA GTTTGGCCTC   7620

CAGATTACTA AGTGGCTCGT CCATGAGGAG AACACTTGGA TTAACCGCTA AGGCGCATGC   7680

CAAGGTGACA CGTTGTTGTT GTCCACCACT GAGTTTATCG GGCTTTCGAT CCGCATATTG   7740

AGCAATTTGC ATGAGTTCAA GATACTTGTT GGTCTGTTGA ATCAATTCTT CTTTTGGAAC   7800

CTTCTTTTGC ATAAGACCAA AAGCAACGTT GTCTCGGACA GTCAAATGTG GGAAAATAGC   7860

GTAGTTTTGG AAAACCATCC CGATATTGCG TTTGCTGGGT TCCATATTAT TGATTTTTGT   7920

ATCATCGAAG TAAAATTCTC CACCTTCGAT ACTGTTGAAA CCTGCAATCA TACGAAGAAG   7980

GGTCGTTTTC CCACATCCTG AAGCTCCAAG AAGGGTAAAG AGACTTCCTT TTGGAATTGT   8040

AATGTTCAAA TTCTCAATAA CAGGGACATC GTGGTAGATT TTTTTGGCGT TAATAATTTT   8100

GATCTCACTC ATAGTGAACC TCTTTTACTG TTTAGATTGG ATATCTGTAA AGACTTCGTT   8160

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GACGGTTCCT TCTTTTGGAT AGACTACCTT AATGTTAGCT CCGTCATTTA AGAGTTTAAC   8460

TGCTGGATCT TCATAAGAGA GACCAACAGC CATTTCTCCA TCAGCGACTA CTTTATAGAC   8520

ACTAGATGAA CTTGAACCGA TTTTACCATC AATAAGTGTG AAAAGATCTT TTACATAAGA   8580

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GCCGTCTCCT TTATCAGATG AACTGTCATC GGCAGATTCA TTAGAAGAAC AAGCAGCATA   9120

ATACATCCAT TTCTTTTTCA TGATGGATAC CTCCGTTGTG TTATTTAAGT TTATTTTAAA   9180

ACAATGTAAG CGTTTTTAAA ACATACAATT CTATTCTATA GTGTATTGAA TCTATAACAG   9240

TACACTTTGA CTGCTAAAAT ATTTCTATAA ATTAATTTGA CTTTCCTGAT AGAGATGTTC   9300
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ACATCTTATT TCAATTCACT ATATTAGAGT AAAATTCTCT ACAAAAAGAA GAATAGCCTA          9360

TTTTACTATT CTTCTGAGTG ATTTCAATTC CTTTGGGGAA ATATGGAGAT ACTTTTTAAA          9420

TCCTGACAAA TGGTTGTTTC TTTTTCTAAA TCGGTGATAC TGTATCGGAG AATGCGCGTG          9480

AGGTCACAAA GGCTGCGATA GAGCTTCTAT GGAGAATTTC TTTTTGGAGA GATTTTTTAA          9540

AGGAATGAGA CATCCGCTAC CTCCTTGGAA GGTTTTTG                                  9578

(2) INFORMATION FOR SEQ ID NO: 128:

    (i) SEQUENCE CHARACTERISTICS:
       (A) LENGTH: 13440 base pairs
       (B) TYPE: nucleic acid
       (C) STRANDEDNESS: double
       (D) TOPOLOGY: linear


    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 128:

CGGGCTGTTG TGACGATTCT TATTTCTATC TGTGTTATCT TTTTGGGAAC TATTTTGGGT          60

GTTGTCTTGG CTTTTGGGCA ACGTTCAAAG TTTAAACCGC TTGTTTGGTT GGCCAACTTG          120

TACGTTTGGA TTTTCCGTGG GACACCGATG ATGGTTCAAA TTATGATTGC CTTTGCTCTT          180

ATGCATATCA ATGCTCCGAC TATTCAGATT GGAATTTTAG GTGTTGATTT TTCGCGTCTG          240

ATTCCAGGGA TTTTGATTAT CTCTATGAAT AGTGGTGCTT ATGTTTCGGA GACTGTTCGT          300

GCCGGAATCA ATGCGGTTCC AAAAGGTCAG CTAGAAGCGG CTTATTCGCT AGGGATTCGT          360

CCTAAAAATG CGATGCGTTA TGTGATTTTG CCACAAGCAG TCAAAAATAT CTTGCCAGCA          420

TTGGGGAACG AATTTATCAC CATTATCAAG GACAGCTCCC TCTTATCAGC TATTGGGGTC          480

ATGGAGTTGT GGAATGGGGC TACAACAGTT TCTACAACAA CCTATCTACC TTTAACACCA          540

CTTTTATTTG CAGCATTTTA CTACTTGATT ATGACCTCTA TTCTGACAGT AGCCTTGAAA          600

GCTTTTGAAA AACATATGGG ACAAGGAGAT AAGAAATAAT GACAGAAACC TTGATAAAAA          660

TTGAAAATTT ACATAAATCC TTTGGAAAGA ATGAAGTATT GAAGGGCATC AACCTCGAGA          720

TTAAAAGAGG AGAAGTTGTC GTTATCATCG GTCCTTCAGG GAGCGGGAAA TCTACCTTGC          780

TTCGCTCTAT GAATTTGTTG GAAGAAGCAA CCAAGGGGAA GGTTATCTTT GAGGGAGTCG          840

ATATTACGGA CAAGAAGAAT GACCTGTTTG CCATGCGTGA GAAGATGGGC ATGGTTTTTC          900

AACAATTCAA TCTCTTTCCT AATATGACTG TGATGGAAAA TATCACCTTG TCCCCTATCA          960

AGACCAAAGG TGACAGTAAG GCCGTTGCAG AGAAAGAGC TCAGGAACTT TTGGAAAAAG          1020

TTGGTTTGCC AGATAAGGCA GACGCTTATC CACAGAGTTT GTCAGGTGGC CAGCAACAGC          1080

GGATTGCCAT CGCGCGTGGG TTGGCTATGG AACCAGATGT TTTGCTCTTT GACGAGCCAA          1140

883

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CTTCAGCCCT AGATCCTGAG ATGGTTGGAG AAGTTCTGGC TGTTATGCAA GATCTAGCCA    1200

AGTCAGGAAT GACCATGGTT ATCGTAACAC ATGAGATGGG ATTTGCCCGT GAGGTGGCAG    1260

ATCGTGTCAT CTTTATGGCA GACGGTGTGG TTGTTGAAGA CGGAACACCT GAGCAGATTT    1320

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TTGTTTAGCT ATTTGTAGCC AGCTTTAAAC GTTAAAGAGA AGATTAGTGA AAAGCTCAAC    1440

CAGAGCTTTT TCTTATAGTT TAAAGCTATA GGATTGCCTA GGAAAGAAGT GTTAGAGCTA    1500

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CCAGCCAGCC AAGTCTACGT TCGCAACAAG GAGAGGTCAG CCCTTGCGGC TGGTTTCCGT    1740

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ATTGATGAAG AGGCGGTTCT ATTGGCTATT GACCCAGAAA AGGATGTGGA TGGTTTCCAT    1920

CCTCTAAACA TGGGGCGTCT TTGGTCTGGT CATCCAGTCA TGATTCCTTC GACACCGGCA    1980

GGAATTATGG AAATGTTCCA TGAATATGGG ATTGACTTGG AAGGTAAAAA TGCAGTCGTC    2040

ATCGGTCGAT CCAATATTGT CGGAAAACCT ATGGCCCAGC TTCTTTTGGC AAAGAATGCA    2100

ACAGTAACCT TGACTCACTC ACGTACTCAT AATCTTTCCA AGGTGGCTGC AAAAGCAGAT    2160

ATTCTGGTTG TTGCAATCGG TCGTGCCAAG TTTGTGACTG CTGACTTTGT CAAACCAGGT    2220

GCGGTAGTCA TTGACGTTGG GATGAACCGC GATGAAAATG GTAAGCTCTG TGGGGATGTT    2280

GATTATGAGG CGGTTGCCCC ACTTGCTAGC CACATTACGC CAGTCCCTGG AGGTGTCGGT    2340

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TTCTGCCACC ATTTACTCCT ACAGATAAAA GAGTAGCCTC GACTTATGAC CTACATAAGA    2820

GGTTAGTGAC TTCAGACTAC TGTAGTCATA CTACGACTAT AGATGCAGCG ATTTCTATTT    2880
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884

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TTAAAACTGG TCGTCTTTTA TCTGCTGTGA AAGCCTTTGG GCGAGATGCT GAGGAGTTGG      2940

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GGTGGTCAAA TACAAGTTCT GGTTATCGAT TGGCGATGGA GCGTTTATTA GGTCGAGCTC      3060

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CAGATTTGAT TAAAGTTCCT GGTTATATTT TTGATGGTTA CCATGCTGTA AAAATTAAGG      3180

ACATGCTTAA TTTATTAAGT GAGTTGTATA TTTGCATTAT TCCAACTCAT AATAAGAGCC      3240

AATTTGAAAA TATTATTCCA ACCAAAATAC AAGATAGGGT GTATTATCTT GACTATGCTG      3300

GAGAAGACTT AGAAGAGTGG ACTAAGAAAG TCTATCAAGT TGTTTTAAAA CAATCAGATA      3360

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ATTTATCAAG GATGGGATGG TTGTAGGGCT AGGAACAGGT TCTACTGCCT ATTATTTTGT      4620

CGAAGAAATC GGTCGTCGAA TCAAGGAAGA AGGCTTGCAG ATTACAGCTG TGACGACTTC      4680
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885

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CAAAGGCGGT GGTGGTGCCC TTCTCATGGA AAAGGTGGTC GCAACACCAT CAAAAGAATA      4860

CATTTGGGTG GTGGATGAAA GCAAGCTGGT CGAAAAACTA GGTGCTTTTA AATTGCCAGT      4920

AGAAGTGGTT CAGTATGGTG CAGAGCAGGT CTTTCGTCAT TTTGAACGAG CTGGCTACAA      4980

ACCAAGTTTC CGTGAAAAAG ACGGCCAACG TTTTGTGACC GATATGCAGA ATTTTATCAT      5040

TGACCTCGCC TTGGATGTCA TTGAAAATCC AATTGCTTTT GGACAAGAAT TGGACCATGT      5100

CGTTGGTGTT GTGGAGCATG GTTTATTCAA CCAAATGGTG GATAAGGTAA TCGTTGCTGG      5160

ACGAGATGGA GTTCAGATTT CAACTTCAAA AAAAGGAAAA TAGAAGGGGG CATAAGATGT      5220

CTAAATTTAA TCGTATTCAT TTGGTGGTAC TGGATTCTGT AGGAATCGGT GCAGCACCAG      5280

ATGCTAATAA CTTTGTCAAT GCAGGGGTTC CAGATGGAGC TTCTGACACA CTGGGACACA      5340

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GCCCTGCCTT TAAAGGAAAT GGTCTCATTC CAGTAGGACA TTTTGCAGAT ATTTCAGCGA      6360

CTGTTGCCGA TAACTTTGGT GTGGAAACTG CTATGATTGG GGAAAGTTTC TTAGATAAAT      6420
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886

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AAGGTCGTCA TGGCGGAGCT TCGTCAAGAA TTGACAAACT TGGGACTGGA AAAGGTTGAG    6540

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887

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888

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GATAGTGGTG TTTCAAGTCT TCTGAATAGC TTAAAATCTT GTCAAGAATT TCTTTATTTG        11580

TTAAGTGCAT GCGAAAAGTA GGGCGATAAA AACGTTTATC GCTsArTTTA CGACTATCCT        11640

GTTGGATGAG TTTCCAGTAA CGCTTGATAG CCTTGTATTC ATGAGATTTT CGTTCAAACT        11700

GATTCATAAT TTGAACACGA AAACGACTCA TGGCACGGCT GAGATGTTGG ATAATATGGA        11760
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889

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AACGATCTAG AACGATTTTA GCACACGGAA AAAGCTGTTT AGCCAAGTCA TAGTAAGGAC    11820

TAAACATATC CATCGTAATG ATTTTCACTT GACAACGAAC GGCTCTATCG TAGCGAAGAA    11880

AGTGATTTCG GATGACAGCT TGTGTTCTGC CTTCAAGAAC AGTGATAATA TTAAGATTAT    11940

CAAAATCTTG CGCAATGAAA CTCATCTTTC CCTTAGTGAA GGCATACTCA TCCCAAGACA    12000

TAATCTTTGG AAGCCGAGAA AAATCATGCT CAAAGTGAAA GTCATTGAGC TTGCGAATGA    12060

CAGTTGAAGT TGAAATGGCC AGCTGATGGG CAATATCAGT CATAGAAATT TTTTCAATTA    12120

ACTTTTGAGC AATTTTTTGG TTGATGATAC GAGGGATTTG GTGATTTTTC TTTACCAGGG    12180

GAGTCTCAGC AACCATCATT TTTGAAsAGT GATAGCACTT GAAACGGCGT TTTCTAAGGA    12240

GAATTCTAGA AGGCATACCA GTTGTTTCGA GGTAAGGGAT CTTAGACGGT TTTTGAAAGT    12300

CATrTTTCTT CATTAGACTT CCACAATCAG GGCAAGATGG AGCCTCATAA TCCAGCTTAG    12360

CGATAATTTC TTTGTGGGTA TCCATATTGA TGATATCTAG AATCTTGATG TTTGGGTCTT    12420

TAATATCGAG CAGTTTTGTG ATAAAATGTA ATTGTTCCAT ATGATTCTTT CTAATGAGTT    12480

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ATAATATCTA TAGTGGATTT ACCCACTACA AATATTATAG AGCCCAAAAA GGAAGCCCTT    12600

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GACGAGCTTT ATCGCGGCTT GCTTTGTTTT TGTGAATCAA ACCTTTAGTT TCTGCTTTAT    13260

CGATAGCTGA GCTAGCAGCA CGGAAAAGTT CTTCAGATGG GTTTGCTTCG AAAGCTTTTA    13320

TAGCAGTACG CATAGCTGAT TTTTGAGCTG AGTTCTTTTC GATTCGTCTA ACGTTCAATT    13380

CAGCGCGTTT GATAGCTGAT TTAATGTTTG CCAATGGTCT TACCTCCATA TTTACTAACT    13440
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(2) INFORMATION FOR SEQ ID NO: 129:

890

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(i) SEQUENCE CHARACTERISTICS:
    (A) LENGTH: 8512 base pairs
    (B) TYPE: nucleic acid
    (C) STRANDEDNESS: double
    (D) TOPOLOGY: linear


(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 129:

CCTTTTTTCA AAAACTAGAT ACTAGTCTAT CAAAAGTAGG AAAGGGTTTC AAGAAAATTG       60

ATTGGAAATT TTTTGAAAAT CATAGAACTA TTAGCTAATC CCTAGTATTG AAAAGACTGG      120

ATAGCTTCTT TCAGGTCATC TTGTAAACTA TTTCTCTGGT CAAGTTGGAC ATAGACTTCC      180

ACCAGACAGG ATCTAAAGTT GGAAAATTTG TAAAAATCCT CCCTTTCTTC TATCGGAAAA      240

TCAACAGTTT TTATCCAAGA AGCTACTTGT TCTTGCTCCA ACTTCCCTTG TAAAATAGGT      300

TCATAGATCA CTCTTGCTAA ACGCCAATCC TCATCATCTG TAAAGCGAAT CGACATTCTT      360

TTAAATAGTT GGCCAAGTAT ATCAAATACT TCATGAACTC TGTTTTTAGG AAAGTCTGGA      420

TGACAAACCA CCTCTGTCAG TAAATCGGCT CCATGTGCAA AAGCGTGAAC CCAACCATAC      480

TGACTTGAGA AACCCCTTGT ATCCTTTTCT TTTGAAAGAT AGTGCAAGCC TTGATTTAAA      540

AGGACATTAC GAATTCTGG AGAAGGATTT CCCAAATGAT CAAACAACCA CTGGATTTCT       600

TCCTGGTTAT AATTTGGTTT TTCTTCTGCT ATTTTTCTTA GTAAATCTTG ATACATGGTC      660

AATACCTCTA CATTTCTAGC AACTGTTCAA AAAGGCAGTC TTAAATGACT CAATATTGAA      720

TTCTCAATTA AATACAATCT GATATAAAAT GACGTAAATA ACTATCAATA CCAGTTCTAC      780

AGTAAGTTCA AATTTAACAT CACGACCTTC AACGACATTT TTGAAAATAG CTACAACTAA      840

GACAAATAGA ATGACGCTTA ACAAGCCCAT AAACATCATT CTAAAAAATT TTTCTATTCC      900

CCTACTCTCC CAACTCAGCA CTATAGGAGA TAATCTGGTC AACTGTGTCA GACAAGAATT      960

GGATGGTATC ACGGAGTGGT TTGTCTGTTG AAATATCAGC ACCGATAATC ATGGCTGACT     1020

CAAGTGGTGT CTTGCTACCA CCTGATTTGA GGAGATTGAG CCAGTCTTCA GCTCCAGTTT     1080

CAGAATGTTT TAGATGAAGG TAACCAGCAG TCGAGATAAC TAGTCCTGCT GAGTAAGTGT     1140

AACTATACAA GCCCATATAG TAGTGAGCTT GGCGCATCCA AGTCAGAGTT GCATCATCGT     1200

CAATTTCAAT AGCATCTCCC CAGAAATCCG TCAAAACTTC CTTCATAATG CTGTTGAGCT     1260

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CTTCCAAGAG GTGGGTGATA AAGTTATGGA AGTAGGTGTC TGTCAAGCGA TGAGCCAGAG     1380

CGAAGCGTTT TTGACGTGGG TCATTAGACT GGTTCTCCAA GTAATCACTG AGTAGCAATT     1440

CATTGAAGGT TGACGGTGCT TCAACATAGT AGGTCGACAT ATGGGCATTG AAGTAACTTT     1500
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891

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GATGATTGTC TGAAAAGATG AATTGACCAG AATGCCCGAT TTCATGAATC AAGGTATAGA      1560

CATCGCTCAA ACGGCCTGTC CAGCTCATGA GTACATAAGG GTGTACGCGA TATGGGTCCG      1620

CCGCATAACC ACCGGAATCC TTGCCACTGT TAGCAGCAAA GTCCACCCAG CGCTCTTCTT      1680

GGTAACGAGC AACTTCCTGA CAATATTCTT GCCCCAAAGG TTCTACCGAC TTCATGACCA      1740

AATCATAGGC ATCGTCAATA GTCACTTCAG GATTCAGGGC GCTGTCCAAG TCCAATTTCC      1800

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AGAGTTTTTC AGACTTGACC TGAGCCAGAT AGGCTGCTGC AGCCGTATTT TGGTGCTTAC      2040

GAAGTCCCTC TGAGAAGGAA CGGAAGGATT TCTCACGAAC CTCAGCATCC TCATGGTTTT      2100

·GGTAGAAATT CTCATAGGTC ACAAAGCTGT TTTTGTAGGT CTTGCCATGG GCTTCAAAGT      2160

CAGCCATTTC AAAATCCCCA GCTCGCATCT TAGTATAAAT GTCCTGCGGA CTGTAGAAAA      2220

CTTCACCGAG ATTTGTCAAG GCCTTCTCCA CATCTGCCCC TAAGTAGTGG GCTTTTTTGA      2280

TTTTAGCCTG ACGAATGGCA GCTGTTAAAT GTGGCAATTT ACCCAAACGG TCCAAGACTT      2340

CCTCATCTGC TGCCACCAAG GCATCGTCAA AGAAGGTCAA GGCTACGCTG GCATCTGTTT      2400

CAAATTCCAT CCCAGCTTGG GCAATATTGG CAAATTCGTC ATTGCTATAG TCCGTCGTCT      2460

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GGGCTGTTAA GTCCCAGAGT TCCTTCTCTG GAAATTCTGA ACGGTGTTTT TGTTCCATTT      2700

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GCTGTTTCTG CTCGCAAAAT ACGAGGACCT AGGCCTGCCA AAACGGCTCC TTTAGCTTCA      2820

AAACTTTCGA TTTCTGCAGG TGAGAGACCG CCTTCTGGAC CAAAGATAAA GAGCAGTTTG      2880

GCTCCTGTTT CAAGACCAGT GACTGCTTGC AGAAGCGCAG CGGCTTCTCC TTCTTTAGCT      2940

GATTCTTCAT AGGCTACTAT GATAGAGTCA AACTGGTCCA GCTGAGCTAG AAAATCTGCT      3000

TTTTTCTCGA AAAGTTTAAT ACTTGGTACA ATATTACGCT TGCTTTGCTC GGCTGCTCCA      3060

AGGGCAATTT TTTCTAGTTT TTCAACTTTT TTACCCAATT TCTTGCCATC CCACTTGGCA      3120

ACTGACCAGT CTGCAGGAAA GGCCCAGATT TGGCTAGCCC CCAGTTCGGT TACTTTTTGA      3180

GCGATGAACT CCAGCTTGTC TCCCTTGGGA AATCCAGATG CGATGGTCAC TTGGACTGGT      3240
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892

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AGTTCCACAT TGTCATTTAA TTCTTGGACC AACTCAAACT GACGATTTTC CATATCCAGC        3300

ACGCGCGCCA AGCGCTTGAT GCCATCATCA AAGACTAAGG TAACCTCATC CTCTTCTTTC        3360

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ATAGCACTGC CTTTTACAAA ATACTGCTGC ATGCTAGCCT CCAATCACAC CAGAGATATC        3480

CTTGGTTTTC TTAAAGACAC AGGTATTCCA TTCCCCTTGA ACCATGTGAG TTTCGAGGAA        3540

AAATCCAGCT GACTCAGCCG ACTGGCGCAC CATGTCCAAC TTGTCCTTGA TAATGCCACT        3600

CATGATCAGG TAGCCTTCAT CCTTTACCAA GCGATAAGCA TCGTCTATTA GATGAATGAG        3660

GATATCCGCC AAGATATTAG CCACAATCAC ATCTGCCTCA ATTTCCACAC CCTTAAGCAA        3720

ATCTCCAGCC GCTACATGGA TATTTTCCAT GCCAGGGTTG AGCTCAATAT TTTCCTGAGC        3780

CACACGAACC GCCACATCAT CCAGGTCATA GGCGAAAATT TCTTTAGCCC CCAGAAGCGA        3840

GCTGGCAATA GAGAGAACCC CTGAACCAGT CCCCACATCT AGCACCGTTT CGCCACCACG        3900

AAGAACCTGT TCCAAGGCAA AAAGGCTCAT CTTGGTAGTT GGGTGGGTTC CAGTACCAAA        3960

AGCCATGCCA GGATCCAGCT TGATAATCAT TTCCCCCGCA GTCGCCTCAT AGTCTGTCCA        4020

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GTCTGCCCAG TCTTCCTCAG CCAAGGCAGT CGTACCTATT TTTAACTCTC CCAAATCCAT        4140

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CGTGTCAGGG TAGTAGGCTG TCACTACGAT TTCTTCTTGC TGCTCCACCT CTGGGAAAAT        4260

CTCTCCAAAG CGGTCCACAT TTCCCACATA GTCCATACTG TCTTCGATTG CGACTCCTTG        4320

CGCTCCCAGC TCAATCAAGA GATTGGAAAC CAACTCCTCT CCCTCACGCT TCACTGTAAC        4380

TTTTAACTCT TGCCATGTTT CCATTATTAA TACCAAGCCC GTAAAACACA AAACCAAAAT        4440

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GGGCGGGTTC AGTTTAGAAA TGTAACTGAA CCATCCTTTC TAATCACTTA CTTTTAAATA        4560

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CCGAGCGCAT TCAAAAGGGC TTTCGTCCCC TTCACGGCCA CCACCTGGCA GTTCCCACAT        4860

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AAACAAAGCA ATCTTGCAAC CTGTGAAATC AGAAATTTCT AGTTCCATCT TCAGTTCCTT        4980

CTAACATTTC CTTTTCCAGC TCGGCTAACC AGTTTTCATA ATATCTTTTC TCATCCCTCA        5040
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893

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ACATTCGACT ACTATCCATT TTCTGTCTAG CAATCTTGAG AGCCTTACGA GTTCGATCTA        5100

CATCTTTCTT CACCTTTAAT TGATACCAGG CTTGTATCAC TTGAAGATTG GACAGTTTGA        5160

GAGACAGAAA CGATTTGACC TGTCGAATAC TAGCATATTG CTCCGCTTGC TCAAAATCTC        5220

CTTCCAACAA GGCGATATGA AGCAGGGATA GTTGGGCAAC TGTCTGCATC ATCGGAGTAG        5280

TTGTCCTCTC AAGTAATGCT TGAAACTGCT GTTTAGCTAC TTCTTCCTTC CCTTCCAAAA        5340

TGGAAACTTC ACCTTGCATA CCTAATACAC CATCCGCAAA ACTCCCTCGT GCATCCTCAG        5400

GAACTGCTTG AACAAAGTCT TTCAAATCAT ATTCTTGAGG AGCTAGCAAG GTCTGGGCAG        5460

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CGCTTTCATC CTCTTTTAAA CCAATGTATT GAGCACCAAC ATTTTTCAGA ATGGCTGTTC        5760

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CCAGCCGATA GCCTGTCAAG TAGCCACAAA AAGCATGACC CAGCTCATGA AGAATAAAGA        5880

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CATCTAGCCC AACCTCAGCA GTATCTTTAA GGAAAAGCGC AAAATAAGCT AAAAATTCAC        6240

GGGAAAATCC TTTTTTAGGC AGGTAAGGAA TAACAGTCAA ATAGTCTTCC TCATTGACTG        6300

TTGACTTGGC AGGATTGTAG AAAAGGACCG CTTCCTCAAA AAGAATGTCA TCTGATGAAA        6360

CCTCTCCGTC TTCATCCACC ATCTCCACAC CGCAGCATTT TGCGCTTCCA ATAGAAAACT        6420

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GTGATTTTCT TAAAAGTCTG ATTTCTTCAT TTCTCATAAA AATCAATATA AAAAGCCCTC        6720

GAAAGGGCTA ATAAATCTAT AAAATCAATA GGCGAGTAAC TAGCACAAGT GGACGTGCTT        6780
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894

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TTTTATTGAC TATTACCACG ATACCACGCT TAATCTTAGG CTTGAACTTT CTTATCTGCA    6840

ATAGCGTCTG TCAAAGTCTG AGAAAAGTTA AGCCCCATTT CTCGTCCCAA CTTATCTGCC    6900

CATTTTGGTA TGGTCAAAGT CTTTTTAATG GGTTCCTGAC TTCCTAGGTA TTCTGATACA    6960

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AACTCTCCAT CACTCTCTAT CAAATCTGCA ACAGTTATCC CTAGCCACTC CGACCCCATA    7140

GCCAAAGCCT CAGAAATCCC CTCTCCTTGT GTAGCTGAGT ATTCAAAATC TGGGAAATGG    7200

ACAAAATAAG TCGCTTCTGT TCCGTCTGTG TCGTCATAAT AAAATAAAGC TGGATACGTA    7260

ACTAACATTT CACTACCTCC ATATCAAAAA GCAGGGACTG AATTTTACAA CCCAGCTTGC    7320

TTTCTTATCC CTCTTTCAGT GTACTTATTC AGCTCACCAT GAAGGATTGT GATAGGTCTT    7380

TCCCCTTGCT TTTCCATTTT AATATGGGAG CCTTTACCGC CTCTAGTCTT TATCCAACCA    7440

TGGGCCGTAA GGAGTTTAAC CATCTCTTTT TGTGTCATAG GCATAGCGCT TTTACCTCCT    7500

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CCTATTTTGA GCTTTAAGGA AAATCAAATC TCTCATGCTG ATACCTCTCC TCATTAAATT    8340

AAATAGTAAA AAAGATTCTA TCTCACTCCC TGATTATTAC AAAACCATTG AAATATCACA    8400

ACTAATAGGC TAGAATGGAC ATAGTAAGAT ATAGTAGATG AGTCATTCTA CTCAAATCCA    8460

CGTTAGAAAG GACTGCTATG CCAGACAATC TCGCCGTTCG CATGCGCCCn GG    8512
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(2) INFORMATION FOR SEQ ID NO: 130:

895

(i) SEQUENCE CHARACTERISTICS:
    (A) LENGTH: 2869 base pairs
    (B) TYPE: nucleic acid
    (C) STRANDEDNESS: double
    (D) TOPOLOGY: linear


(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 130:

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CTCGTTTCAA GGTTGAGTCT CTTGCAAATC TTGTTCGCGT TCTTCCTTTT GCCAAGGCAT        60

CTCTCCCATG GTTGGTGCcA GCCATTGTTG GAATCTTGCT CTCATTGGTT CTACCAAACA       120

AGCAAGAAAG CGATGTTTTT GAAATGGAAT AATCACTTAA ATCACTTTTG TAGCCAAGTC       180

TACAGGAGTG ATTkTCTTTT TTTATCCGAT GATAAATGTG TTATAATAGG TAGCGAAAGA       240

GGTGAAGAAA TGAATCAAAC AGTAGAATAT ATCAAAGAAC TGACAGCCAT TGCGtCGCCA       300

ACAGGCTTTA CTCGTGAGAT TGCGGACTAT TTAGTCAAGA CTCTAGAAGG TTTTGGTTAC       360

CAGCCGGTTC GCACATCCAA GGGCGGTGTC AATGTAACTA TTAAAGGTCA AAATGATGAG       420

CAACATCGCT ATGTGACTGC CCATGTAGAT ACGCTTGGTG CTATTGTCCG TGCTGTCAAA       480

CCAGACGGCC GTCTCAAAAT GGACCGTATC GGTGGCTTTC CTTGGAACAT GATTGAAGGA       540

GAAAACTGTA CCATTCATGT GGCTAGCACA GGTGAAAAAG TATCAGGAAC CATCCTCATC       600

CACCAAACTT CTTGCCATGT CTATAAGGAT GCAGGAACTG CAGAACGCAC GCAAGACAAT       660

ATGGAAGTGC GTTTGGACGC CAAAGTAACT AGTGAAAAAG AAACTCGTGC TCTTGGCATT       720

GAGGTCGGTG ATTTTATCAG TTTTGACCCA CGAACTGTCG TGACAGAGAC AGGTTTTATC       780

AAGTCTCGCC ATTTGGATGA CAAGGTCAGT GCGGCGATTT TGCTCAATCT CCTTCGCATT       840

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GAAGTGGGAC ACGGTGCAAA CTCTAACATT CCTGCTCAGG TAGTAGAATA TCTGGCTGTG       960

GATATGGGAG CCATGGGAGA TGACCAGCAA ACAGACGAAT ATACAGTGTC TATCTGTGTC      1020

AAGGATGCTT CTGGACCTTA TCACTATGAC TTCCGTCAAC ATTTGGTGGC TTTGGCGAAA      1080

GAGCAAGATA TTCCATTTAA GCTGGATATC TATCCATTTT ATGGTTCGGA CGCTTCAGCG      1140

GCTATGTCTG CAGGGGCAGA AGTCAAACAC GCCCTTCTCG GTGCTGGTAT AGAGTCTAGC      1200

CATTCCTATG AGCGTACCCA TATTGACTCG GTGATCGCAA CAGAACGAAT GGTCGATGCT      1260

TATCTTAAGA GCACGTTGGT GGACTAATAT GTGCCTTATT TGTCAGAGAA TTGACCTCAT      1320

CAAGAAGGAA GAAAATCCTT ACTTTGTCAA AGAGTTGGAA ACAGGCTATC TTGTGGTTGG      1380

AGACCACCAG TATTTTGAAG GCTATAGTCT CTTTCTAGCC AAGGAGCATG TCAGCGAATT      1440
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896

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GCACCATTTG AAAAAGGAGA CAAGACTCCG TTTTCTAGAA GAAATGAGTT TAGTCCAAGA   · 1500

GGCAGTTGCC AAGGCCTTTG CTGCTGAGAA AATGAATATC GAACTGCTAG GAAATGGCGA     1560

TGCTCATCTT CATTGGCATC TGTTTCCACG ACGGACAGGT GATATGAATG GTCATGGTCT     1620

CAAGGGTCGT GGACCAGTCT GGTGGGTTCC CTTTGAAGAA ATGACAGCAG AAACCTGCCA     1680

AGCAAAACCG GATGAGATTA AAAGATTAGT CAAACGTTTA TCGTCAGAAG TAGATAAACT     1740

ATTAGAAATA AAGGAGTAGA AATGAAGAAA AGATACCTAG TCTTGACAGC TTTGCTAGCC     1800

TTGAGTCTAG CAGCTTGTTC ACAAGAAAAA ACAAAAAATG AAGATGGAGA AACTAAGACA     1860

GAACAGACAG CCAAAGCTGA TGGAACAGTC GGTAGTAAGT CTCAAGGAGC TGCCCAGAAG     1920

AAAGCAGAAG TGGTCAATAA AGGTGATTAC TACAGCATTC AAGGGAAATA CGATGAAATC     1980

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GCCAAGGCAG AGTTGGTCAA ACTCATCAAA GCGATGCAAG AGGCAGGTTT CCCTATTAGT     2100

GATCATTACA GTGGTTTTAG AAGTTATGAA ACTCAGACCA AGCTCTATCA AGATTATGTC     2160

AACCAAGATG GAAAGGCAGC AGCTGACCGT TACTCTGCCC GTCCTGGCTA TAGCGAACAC   ' ·2220

CAGACAGGCT TGGCCTTTGA TGTGATTGGG ACTGATGGTA ATTGGTGAC AGAAGAAAAA     2280

GCAGCCCAAT GGCTCTTGGA TCATGCAGCT GATTATGGCT TTGTTGTCCG TTATCTCAAA     2340

GGCAAGGAAA AGGAAACAGG CTATATGGCT GAAGAATGGC ACCTGCGTTA TGTAGGAAAA     2400

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ATAATGGATG GGTATGTGAA AAACATACTT GTGGGAGGTA AAAATCTCTA ATTACCGCCA     2760

AAACCACAAA GGAGGATTTA AAAATGGCTA AAAAAGTCGA AAAACTTGTA AAATTGCAAA     2820

TCCCTGCTGG TAAAGCTACA CCAGCTCCAC CGGTTGGACC TGCTCTTGG               2869
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(2) INFORMATION FOR SEQ ID NO: 131:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 6186 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 131:

897

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AGTGGGTAAC TATACTGTTT GTTCATTAAC TAATACCAGC TCTCATTCTT GCTTCTTTTA       180

GTTCTTGCTT ACGATAACTA CGAGGGAGAA AAGCACGAAT CTCATCTTCA TTAAAACCGA       240

TTTGCATACG CTTGGCATCA ATAATAATTG GACGACGCAA AAGACTAGGA TACTGCTCAA       300

TCAAATGAAG CAATTCCGAT ACCGAAATAC TCTCTACATC AATATTCAAT TTTTGAAAAA       360

TTTTTGAACG AGTTGAAATG ATGTCATCAG TACCATTTTC GGTCAAGGAA AGGATGTGTT       420

GCAATTCTTT TCTTGTTAAA GGACTGGTCA TAATATTGTG TTCCACAAAG GGAACTTATG       480

TTTTTCTAAC CAGGCCTTAG CCTTACGACA TGATGTACAG CTCGGTGATA GAAATAGTGT       540

AATCATGCTT TTCTCTTCTT ATCTATACTT TGCTACTTCT ATTATACAAA AAAATAAAGC       600

GCTTGACTAG GGATTTTTAG AAAAAAAGCC TATTTTTTCA AGAAAAATAG GCTTTTTGCG       660

AACGATTGAC ACAATTGGAT TTGGTTAATT CACTCTTAAC GATGGTTTTA AACGATATAT       720

ATTTTTATAT ATGTAAATTA AAAACATCTT TCCTTTCACT TCCTACGACT TTTCAGATAC       780

AGATAGCCAA AGAAGTTTTC ATAGAGGGCA AAAAAGAGGA GGAAGGCATG AAGAAAGAAG       840

GTCTCTGGCA AAATCATAAT AACAGGATCC TTGGCTGGAT CAAAAAGCCA GGTATCATCT       900

CCCACAAAGA GAATTTGATG GAAAAGAGTA AAGAATTGGT CAAAACCAAT CAAAACTCCC       960

CCAAGTCCAA TCATCACAGG TAAGACTACT AGAGCCAGGA GACTTTTTCG ATAAAGAGAC      1020

AAAAAGTCCT TTTTCACAAT CCTATTGACA AAGACATAGA AACTTGGCAG TGTCACTAGA      1080

GCTACTAGCT GAACCAAATG AAAGAGATTC TTGACCACTG CGAAATGGTG CAGACCAGCT      1140

GCTGACGAAC GAAAATCAGG CATCTGTAAG ACCTGACTAA AAGGATTGGT CAGATAATTC      1200

ATCAAGATAT GAAAATTGTA TTGAATGGTT TCTGGTTTTA GATAGACTCG ATTCGTTAAG      1260

TTTAGCCACT GAATCTCCAT AGGATAGAAA ATCCAAGCCA GATAAATGGT CAGAAGGATG      1320

GAGAGGGAGA GGAGAAAGAG CATAGAGCCC CAAAAGATCA ATTTAGTTTT CATCAAAATC      1380

CCACTCCGCA AGGCTAGAAA CCACATGTGT CGGTGCGATT GGCAGGCCAG CTACTTCTTC      1440

TGCCTTAGTA AAACCTGTCG TCACCAAGAG CGTTGGAATG CCATTGTCAA TCCCAGCCCG      1500

AATATCAGTC AAATAATTGT CCCCAACCAT GATTAACTCT TCACGTTCCA AACCTAAGTG      1560

CTCAACCGCC TTGTCCATAA TGATGGCATT TGGTTTTCCG ATATAAACCG GCTTCACTCG      1620

TGTCGCTACT TCAAGCAGCG TAATCAGTGA GCCAGCACCT GGCAAAAGAC CGCGTTCCGT      1680

CGGGATGTTG AGGTCAGGAT TGGTTCCGAT AAAATGGGCA CCCTTTTGAA TAGCAAGAGT      1740
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898

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TGCTGTGGCA AATTTTTCAT AGTCGACTTG CCAATCCAGA CCAACTACCA CGTAGGCAGG      1800

TTTTTCCTTG TCTTCCACAT AACCAGCCGC CTTGATGGCT TCCTTGAGTC CTGCTTCTCC      1860

GACGACATAG ACGGTCTTTT CAAGCCCCAA ATCATTCATA TAGTCGATGG TTGCCAAAGT      1920

CGCTGTGTAG ACAGTCGATA GGGGCGTATC GATATTAAAA TTCTGAGCCA ACATCTCCTT      1980

AACACTCTCT GGAGTGCGGG TTGTATTGTT GGTTACAAAG AGATAGGGAA TGTCCCGCTT      2040

TTGCAATTCA TGAACAAAAG TCTCTCCAGC AGGGATTCGG TCTTTCCCCT TATAAATGGT      2100

TCCGTCTAAA TCAATTAAAT AGCCTTTATA TTTCATCTAT TTCTCCCTAA GCCTTTTTTA      2160

TTTCTTGCCA AGTAATGATT GCTTGGGCAT TGATAACCCC ATCACTTGTA ATTTCATGCT      2220

TGCTTTCCAG TCCAGTCCGT TCAACAGCCG ATGTAATCAC CCCACCTGGT CGAACTTCCT      2280

TGACATACTT GAGGTTGATT TTCTTGGGAA TATAGTGGGT CAAAAAATCC GCTCCCATGA ·    2340

CCTCAAAAAT CCAGTCCAAG TATTTACTGT TATTGACATG ACCATTCATA TCCAAGTCGT      2400

AAAAACGAAC ATGGTAATCC TTGCTGATCG GTTCTTCCAA GGACTCATAC TTCGGTCCAC      2460

GGATAAGTTT TTTATCAAAA TCAGACTGGT AAGGAGCCAC AATCTCAGGT TCAACAACAT      2520

GGACTTTTCG ACTGTCGCGG TCCATGAGAA CAAAGGTCGC CATCATGTGG ATGAGCTCCT      2580

GCTCCGCTTC ATTATAAATA GTAAAGCGAC GGTAGCAAAA AAGTCGATTG TAGCTCAAGG      2640

CTTCCGTTTC GATGGTAATT TCTTCCGCAA AACGAGGCAA ACGAACCACC TCAATATCAT      2700

ATTCTACGAT AATCCAGACC AGATTATATT CTTCCAAAAT GGCCTTATCA CTAACTCCCA      2760

GTTCAATCGA CTGCATCCCT GAAACTTGCA GTGACAGCAA AATCACATCT GGAAGTTTGA      2820

TATGACCGTT CATATCAGCC ATATCAAAAG GAATTTTCAT TTTCATTTGA TAAGTTAAGC      2880

CCATGATCCT ACTCCAAAAT AAATCGTTCT GCTACAGTAT CTCCCAAAAA GAGACCTCTC      2940

TTTGTCATGC GAACGTGGTC ACCCTCAATC TGCATGAGGC CTTGTTGAAC CAAATCTCTG      3000

ACAATTTCTC CATAAAGTCC AGCAAAAGAC TGTCCAAATT TTTCCTCAAA TCGCGCCATG      3060

GAAACCCCGG ATTTCTTGCG GAGTCCCAAG AACATTCTT CTTCCATTTG CTCCTTTTGA      3120

CTCAGGTGAT CTTCTGTAAT ACAAGCATTG CCTTCCTCAA CCGCACTGAG ATAATGACGA      3180 ·

ATGGGACCAT GATTTTTATA GCGTACTCCA TTGACATAAC CAGATGCCCC TGCACCAATA      3240

CCATAGTATT CAGCATTGTC CCAGTACATG AGATTATGAC GACTTTCAAA ACCGGGTTTG      3300

GAGAAATTAG AAATCTCATA ATGCTCAAAA CCCGCTCGCT CCAGCTCTGC AATGATGTAC      3360

TCAAACATCT CCGCTTCTAG TTCCTCCTTA GGCAGAGGCA ATTTCCCACG TCGCATCCGG      3420

TTCATAAAGA CCGTATGGTT TTCTAAAATC AAACTATACA AACTCATGTG GGGAATATCC      3480

AATCCAATGG CTTTAGCCAC ATTTTCCTTT ACTTGCTCCA TGGTCTGACC AGGCAGAGCA      3540
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899

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TAAATCAAAT CAATGGAGAT ATTGTCAAAA CCAGCCAGTT TCAGGCGATC GATATTTTCA    3600

TAAATATCCT TCTCCAAATG ACTGCGCCCA ATCTTTTTCA ACATCTTATC ATCAAAGGTC    3660

TGGACACCTA GCGAAACACG ATTGACAGCC GAATTTTTCA AAACAGCTAT CTTATCCGCA    3720

TCCAAATCGC CTGGATTGGC TTCAATGGTC AACTCTTCCA AGACAGACAA ATCCAAGTTT    3780

TTAGTCAAGC CATTCAGTAA CACCTCCAGT TGCGGAGCCG ACAGGGCTGT CGgTGTTCCA    3840

CCACCGATAT AAAGGGTTGA CAACTTTTCA ATATCATAAG AACGAAACTC TTCCAGCAGA    3900

TGCTCTAAAT AGCTGTCGAC TGGCTGATTT TTGATGAAGA CCTTTGAAAA ATCACAATAA    3960

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GTAATTATTA TACCACAAAG ACTAGATTCC AGATAAAAAT CACCATCCCC AGATACATAG    4080

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ATGCTTCTGT CGCTTGAAAA GCATAGGATT TAGTTTGAGC AAGTATACTG TCCACAGTGA    4260

TTTCACCTGA CTCAACCTGT TCTTTTGTTT TCAGAACAAA ATCTGTAGCC TGCTCCTTAA    4320

CTTCTGTCAG TTTTTCACAG ACTTGCTCCT TGGCATACTC CGGATCTTCT CTCAAATCAT    4380

CTAGAAAATC TTGAGCCTGA CTGCAAACTT GTTTGCCCTT ATCACTTGTT AAAAACAAGG    4440

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TCCTTTTTTA TTTTTTGAAA AATTTACTTG CAAGACGAAG AGCTGACAGA CTTGCACCAG    4560

TCTTGAGTGT TTTTGAACCA GCTGATGAAG CTTTCTTGCT CAAGACACGC GCATGGTCAT    4620

TGAGGTCTGA AACAGATAGA GATAAATCTG CAACAGCACT GAAGAGTGGA TCAATCGTAG    4680

CCACCTTGAC ATTGATATCA TCTGCCAAGA CATTGACCTT AGCCAACAAC TCATTGGTGT    4740

GATGCAAGGT CACATCCACA TCTGAAGTCA AGGTTTTAAT CGTCTTTTCT GTTTCATCGA    4800

TGACACGACC AAGCTTTTGT ACAGTAATGA TCAGATAGAC CAAAAAGACA ATCAAAGCTA    4860

GGGCAACAAG AATATATGCA ACTTCTAACA TTTAGTTTTC CTCCTCTGTA ATATAGTAAG    4920

GGGCCTTCTT TCGATTTTGA TAAATAACGA TCATTATACC GAGACCGATA AGGACAACTG    4980

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TAACCATACG ACCGAAACCA TACCAAATCA AGTAAAAGGC CGTGATATGA CCTCGTCTGA    5100

GACTCTTCCA TTTCCGTCTA AAAATCAGAA TCAAGGCAAA GCCAAGCAGA TTCCATAGAG    5160

ACTCATAAAG GAAAGTCGGT TGACGGTAGC TCCCCTCAAT ATACATCTGG TCACGGATAA    5220

AGCCAGGTAG ATAATCCAGA TTATCCACTG TTGCACCATA AGCTTCTTGG TTAAAGAAAT    5280
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900

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TACCCCAACG CCCCAAACTT TGAGCAATCA TAACGCTAGG CGCCGCAATA TCTAGAAAAT      5340

CCCAAGTATT GATGAGTTTA CGGTCAGCAA AGATATAGAG CACAAGAGCC CCAGTTATCA      5400

AACCACCGTA AATGGCCAAA CCACCATTCC AAATGGCAAA AATCTCTCCT AAATTCTGAC      5460

TATAGTAATC AAATCGGAAA ATAACATAGT AGAGACGAGC TCCTAAAATA GCCAAGGGAA      5520

AGGCTACTAA GATAAAATCT AAAATATCGT CTGGTATGAT CTTCTTTCTA GGTGCTTCTT      5580

TCATGGTCAA ATAAACCGCA AGAATCAAGC CTGTCACAAT ACATAAGGCA TACCAACGAA      5640

TGGCTAGGGG TCCTAGTTGA ATAGCAATTG GATCAAGCAT TTTGCACCTC ATTTCGAGCG      5700

ATTAGACTTG TCAGTCGTTC GTCGAACAAA CGGGTCGCAT CAAAGCCCAT TTCCTTGGCA      5760

CGATAATTCA TGGCAGCTGC CTCAATCACA ACAGAGATAT TACGACCTGT TTTAACTGGA      5820

ATACGAATAC GAGGAATGtA CGCCAGAAAC TTCAAGTTCC TCTGCATTAT TTCCAAGACG      5880

ATCAAAGGTC TTATGCGTAT CGTAATTTTC CAAATAGACA GCAAGCTGAA CCTGTGAAGA      5940

ATCCTTGACA GCACTCGCAC CGTAGAGACT CATAAACATCG ATAATACCAA CCCCACGAAT      6000

TTCAATCAAG TGTTTCAAAA TTTCAGCTGG TTCACCCCAG AGAGTAATCT CATCCTTGGC      6060

AAAGATATCG ACACGGTCAT CGGCTACCAA ACGGTGACCA CGTTTGACAA GCTCAAGACC      6120

TGTCTCGCTC TTACCAATTC CACTATCTCC CTGAATCAAG ACGCCCATCC CATAAATATC      6180

CATCAA                                                               6186
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(2) INFORMATION FOR SEQ ID NO: 132:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 9541 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear


    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 132:

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GAAAATCACA ACCCTTTTTG CAAAATTTTT GAGATTATTT TCACAAACTT GATTTTTCAA       60

AGTATACTCA ATAAAAATTA AAAAAATCCA CTACGTCAAG GCGAGGCTAA TGTGGTTTGA      120

AGAAATTTTC GAAGAGCGTG AATGAGTATC ATCTATAGTA AAATAAAAAA ACTGAACAAT      180

TTGGTTGGGG ACAGCCAAAC CAATTTCTCA CAATGTTTCA GAAACAAGGG TGTGCTATTC      240

CAATTTCAGC CTACTATAAC TGTCATAGAT TGCTGAAACA AAGTCTAGGT AAAAGTCTTC      300

ATAATAAAAA GACCTCCTAT CAAGTGTTCA AAAACTTTGA TAGGAGGTCT TGTTTTGTGA      360

AAATATTTAT CAAATTTTCT ATACAAGTGA GCTGTTAGCC AGGTTCTTTC TATTCTTTCA      420

ATTTCAATGA ATGGATTTTT TACTAATACT CATAACTGGG AATTTGTCTG TGTAAAAATA      480
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901

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GCGAGATAGA TGGTATTTAT AAAACACTCA AGACAGCTAG ACTAATATCA TTTAAAACAT    540

TATCTTCTTT TGAGCGACTG TTGGTTACCA ACATAGCTAA ATTTCCTGCA TTTTCAAATT    600

GATAGGGTTC TGATTTAGCA TTCACAACCA CCAAGAGGTG TTCTTTGCCG TGAACTTCAT    660

AGATAAGGTA GCCGCTATGT TCAATCGCAG AATGCACAAA GACATGATGG TAAATTTCAT    720

CATAGCTAGA GTAAGAAAAG GCACCAGTTT TTGTCTTCAA TCGGATGACT TGACGGATAA    780

ACTCAATACT GTCTTGACGC TCATTAATCA AGTTCCAGTT CACTTGGTTC ACACTGTCAG    840

GAGCATTATA GCTATTCATC GCACGCTCTC TATCATCATG GGTCAACTCA CCATTTTCAC    900

CAGTCGCAAC CAGTTTGGTA CGACCAAATT CTTGACCGAT TTCCATAAAG GCCATCCCCT    960

GCATGAGCAG ATTCATGGCT GTGGCAGTTT CGACCTTGCG CATGATTTGC TCTGAACTTT   1020

GGTCTGGATG AAGGGTTGCC AATAAATCGT GAAGATTGTA ATTGTCATGG GCTTCTACAT   1080

AGTTAAGCAC CTGATTTGGA TGTGTATAGC TTCCTAATTC ACGACTTCCT AGGATTGCTT   1140

TAGCTAGAAT TGGCTCTGTC GCAGCACCAC TGACAAAACC TGACTTGATA GCACCATAAA   1200

CTTCTCCCCC TTTGACAGCA TCGCGCTGAT TGTCATTAAA GAAACCAATA TTTGGCATCT   1260

GGTAGGCATT GTCCTTCTTG GCCTTATCAT AAGGGGCAAG ACCTGTTCCC ATATCCCATC   1320

CTTCTCCATA GAGGATAATG TTGGAGTCGA TTTCATCCAA GCTTTGACGA ATCATCTGCA   1380

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GCACCCAGTA TAGAAGAGAA TCAATCATAT ACTTGCGAAA CATTTCGTGT TCACTGGCTG   1500

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AATCAGGGAC TGTTGTTTGG AATGGTGCAT CAACAACTGA GAAGGTATGG TTATAGACTA   1620

CATCCATAAT GACTCCAATA CCCGCATCGT GATAAGCTTG AACCATCACC TTCAAATCAC   1680

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TTTGTGGATC ATAACCCCAG TTGTAGGTTA CATTTCCATC CTCATCGTAT TCTTTATCAC   1800

GGTCTGCAAT TGGTTGCAAT TGAACATAAT TGTAGCCCAG CTTCTTGATG TAATCAAAAG   1860

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CGAAGTTTTC AACTTGCTTT TCTACATGGC TCAGAATAGC TGAACGTTTG CCATCAGGGC   2100

TGGTCGCGAT TGTATAAGGA TCACGTGTCA GTGTTTGGTG ATGAGGGAAT TGGACTTGAT   2160

ACTGATAAGT CTTACCTACC AAATCTTCTT CAACATCCAA ACTCCAGACA CCGATTGTAT   2220
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902

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TGTCCTTATG ATTATAAGAG TAGCTATTGC CTCTTTTCAT CTCAAAAGTC TTCCAAACGG    2280

GTGCATCATT AGCAGCTGAT TCATAAACGA CAACTTGCAC TTCTGTCGCT GTAGGTGACC    2340

AGAGAGAAAA ATGAGCCTGA TTGTCCTCTA CACGGCAACC CAATTCTCCT TGGTAACCCC    2400

AATGATGATC AAAACTAGCA CTGTTAATGG CCTTATCAAA GGCAAAAGGA TTTTGATTTT    2460

TATAGAAAGG ACTGGCAATA GCAGGATTTT CAGAGTAATA AATCCTATCA TCGCCTTCCA    2520

AAATCCAGAC CTCTGTTAAT AGGGGATAGT GATTAAAACG GATAGAATAT TCTTTACTAG    2580

TTTGACCTGT ATGAACCACA AAATTCAAGC TTTCTATAAC ATGTGAACTT GGGTGTTCAA    2640

AGCTAAATAA AGCTCCAAAA TAATCTTCTT TGTAGGTTAG CAAATCAATT CGTTGATCCT    2700

GACTTTTTAC AAAGGAGCAA GTGTCATATT CTCCATTCTT ACGATGGTAA TGAATGCGCA    2760

TAGGGTAGTT ATACATTTTT TATTTTTCCT TTTTACTTTG TTTCTATTTC ACTAATAAAT    2820

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GTCGTTCCAA TTTTCCTGTC AATACCACGG TCAAACCTGA CAAGGCCGCA TCCGCTACTA    3120

CCGTCTGTCC TTTATAGTCC AGATTGACCC CAGTTTCTTT CAATTCTCTG AGCAGAATTT    3180

CAGAGCCTTC TGTCGCAAAA TAAGTCTGAA GACTTTTGGC AATCACGCCA CCTAGACTTT    3240

CAATACTAGC CACTTCCTCT GAATCTGCCT GAGACAGATT TTCAATTGAA TGGAAATATT    3300

GAAGTAAAAG CTGACTAACC TTGCTTCCGA CATGACGAAT TCCCAAACCA AATAAGAGCT    3360

TCTCGGCAGA ATTTTCCTTT GATGCTTGGA TAGCCTGATA CAGTTTAGCA GCGGACTTTT    3420

CCTTAACTCC CTCTAAAAGG AGGAAATCCT CTTCTTGCAA ACGATAAATA TCCGCCACAT    3480

CCTTGACTAA ATTAGCAGCA AAAAGCTTCT CAACAATAGA TGGACCAAGG CCTGTAATAT    3540

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GTTGTACTGG TGTTAGATTA GCAGTTGGAG TTACAACACC GGTACGGCCA ACTGTCCAGT    3900

CAACTGATAA GAGTTGAGCT TCTTTTTCTT CGGCAGGGAA CTTGTAGGCT ACTGCCCACT    3960

TTGGAGCCTT AACTGTAAAA CCAAGTTCTT CTTGACTTGC TAGGTCGTTG ACCTTGATTA    4020
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903

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CCACTCCATC AATATCGTAA GGCAGATTTT CCCGTTCCTG TCCTACTTCT TGGATAAAAT      4080
TCCAGATTTC ATCTATGTTT TCAGCCAAGA TTCGCTTAGG ATTGACCACA AAACCTAGTT      4140
GTTCTAGGTA CTTCAAACCC TTTTCTTGGC TATCACGAGT TGAAGGGCTG GCTTCTTGAT      4200
AGAGAAACGT TGCAAGATTA CGCTTGGCAA CTACTGCTGT ATCCAACTGA CGCAGAGTTC      4260
CTGCTGCCGC ATTACGAGGA TTAGCAAATT CAGGCTCTCC ATTTTCTTGG CGCGCTTGGT      4320
TAACTTGGTC AAAGGAAGCG CGTGGCATGT AACATTCCCC ACGAACTGTG ATATCTAGTT      4380
CTTCTGGCAA AGTCAAAGGG ATGTCCTTAA CACGCTTGAG GTTTTCTGTG ATATTTTCAC      4440
CAATTGAACC ATCTCCACGT GTTACCCCAG CAACCAAAAT CCCCTTTTCA TAAGTCAGCG      4500
AGATAGATAA GCCATCGATT TTCAGCTCAC AAATATAGGT CGGATGAGCC ACTTCCTTAC      4560
GAACACGCGC ATCAAAAGCA TCTAGCTCCT CACATGAAAA AGCATCCTGC AAACTATAAA      4620
GAGGATACTG ATGACTGTAT TTTTCAAAAC CATCTAAAAC CTTGCCACCA ACACGATGAG      4680
TCGGACTGTC TGCTAGCACT TGCTCTGGAT AAGCAGTTTC TAACTCGACC AACTCACGGT      4740
AAAGGCGGTC ATACTCACTG TCTGAAACCG AGGGATTATC GCTGGTATAG TACTCAGTCG      4800
CATAGCGATT GAGCAAAGCG ACTAACTCAT TCATTCTTTT ATTCATAAGA CCATTTTACC      4860
ATAAAACAAG CCCTCCTCAC AAACGAGAAG GGCGGAAAAA ACACTTAGTT TGAAATTATT      4920
TTTGAAACTC AAGCAACCTT ATATCAATTT TTCAAAATGA GTTCGAACAT ATCCGAGAGC      4980
TAAGAAATAT AAGGCTACAA CTCCAAGTCC AATAATCAAG AAAGAATAAA GATGGACACT      5040
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TGTACTCAGT ACTCTTCCAA GAAATTCGCT CTCAACCTTG GTTTGTACTT GAGTAAAAAA      5160
GTGAATATTA AAAATCGTCA TAAACAATTC ACAAACTAAA TTTCCAGAAA AGGAAAGAAA      5220
AGTTGGAAGT GGTAATCCCA TCATAAAAAC TCCGACACCT GTCAAAGCCA GTAAAATCAA      5280
AAGATTATAA ATATTAGCTT TAATTTTACT AGCTAGAAGA GCCCCAATGA TGGAACCAAT      5340
AGCCCCCATA GTTAAAATAC TTGCATAGGC TCCTTCTGAC CCGTAAAGCT GATTCGAAAA      5400
GGGAAGTAGA AATTCAAAAG CTGCAAAAAA GAAATTAACG CTGGAAGCTA CCAGCAAAAG      5460
GAAGAAAATT TCTTGCTGAT GCCAGATATA GTGTAACCCA TCCTTGATAT CTACAAAAAT      5520
ATCTCTCCCA GTAAAGCCT TTTTCTCTTG AACTTTTGCT TCCTCTTTTG GAAGGAAAGC      5580
CACTAGAACA AAAGCAATGA AAAAAGTCAG CGAGTCTAGC AGTAGCGTCA TATGGAGACT      5640
TGCAAACTGT AAAACAAGGA AGGAAAGAAC AGGAGAGCTA ACACCTACAA CCTGCAAAAC      5700
CAGCTCTAAG CGAGAATTAT AGATCACAAT CTCATCTTTC TCCACCACTT CAGTTATGAT      5760
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904

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AGCTTTATTG GCTGTGCGAG AAAAGGCAAA AGCAATAGCC TGCACAATGT TAGCAACAAT    5820

CAAAGCGCCA ATCATCCAGC TATCATTCCT TATGAAAGAA ATAGCCAGAC AAAGAATCCC    5880

ACAAACAAGA TCTGCCGTCA TTAAAATCTT ACGACGAGAA AAACGGTCTG AAATAACTCC    5940

GCCAAAGGGA TTGACGAGAA TAGATGTGAC GAGCTCAGAA ATCTGATACA TTCCTAAAAC    6000

TGTCTGTCCT ATAGTCCCCA TAGAAGCCAA CCAGACACTA TTTCCATAAT CATAGAGCAT    6060

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AGTTGCCACA CGATTGATAA AGTAACGATC ATGACTGACA AACAGCAAGG TTCCATCAAA    7500

GTCAATCAAG GCATTTTCTA GCACTTCCTT ACTATCAATA TCCAAGTGGT TGGTCGGCTC    7560
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905

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ATCCAGAATC AAAAAGTTAT TGTTTTCCAT AGACAATTTA GCTAAAAGCA AACGAGCTTT      7620

TTCGCCACCA GATAGCATGC CGACTGATTT TTTAACATCA TCTCCTGAGA AAAGGAAGGC      7680

TCCAAGACGG TTGCGGATTT CAACTTCTGG TGTCAGTTTG AAATCATTCC AGAGTTCATC      7740

CAGCACCGTA TTACTTGGTG TCAGCTTGCT TTGGGTTTGG TCATAGTAAC CAACCTCAAC      7800

ATTAGCGCCA AAGCGCTTTT CTCCCTTGAT AAAAGGAATC TGGTCCACAA TAGACTTGAT      7860

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GCCAGCTTCA GGCTTGTCCA AACGTTCCAT TTTTTCCAGT TGTTTACGGC GAGATTGAGC      8100

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GACAAAACGA GAGTAATTCC CCACATAGCG ATCCAAGGAA TGCTTGGTCA AATCTAGCGT      8280

AATTGTCGCA ACCTTGTCCA AGAAATAACG GTCGTGGCTG ACGATAATGA GGGCACCGCT      8340

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CTCGTCCAAG ACCAAGAGAT TGGGCTTTTC AAGGAGCATT TTGGCAAGTG CCAAACGAGT      8460

ATTTTGACCA CCAGAAAGCT CAGCAATTTT CATCTGCCAC ATAGACTCGT CAAACTTGAA      8520

TCCATTCAAA ATCGCTCGAA TATCAGCTTC ATAGGTAAAG CCACCTGCTT GGCGAAAATT      8580

CTCAGATAAG CGGTCATAAT CTGACATCAG TTTATCCAAA TCCTCACCAG ACTTTTCACC      8640

CATCTCCAGC TCCATCTGAC GCAGTTGTCT CTCCGTCCGA CGCAAATCAT TAAAGACATG      8700

AAGCATTTCA TCGTAGATGG TATTTTCAGA CTCAAAACGG CTATCTTGGG CTAGGTAAGA      8760

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AAATAAGATG AGAACAAATC GATTGGGAAA GTAAAATTAA TTTCTATAAA TGTTTTAGCA      9240

ATTGTTTCGT ACTATTTTAG ATTCAGTCTA CTATATACAA TATTTTCGGA ACATTCAACT      9300
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906

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TTTTAACTCT ATTTATTACT AGATTTCATA ATTAAAAAAC CTACTGACCA AGCTAGAAAG    9360

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GCTTTGAATG CTGGTACTTT AGAAGCTGCA ATTGTCATTT CTTTACCAGT TTGTGGGTTG    9480

CGACCTTTAC GTTCTGCGCG CTCACGAACT TCAAAGTTAC CAAAACCGAT CAATTGAACT    9540

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(2)  INFORMATION FOR SEQ ID NO: 133:

    (i)  SEQUENCE CHARACTERISTICS:
        (A)  LENGTH: 3502 base pairs
        (B)  TYPE: nucleic acid
        (C)  STRANDEDNESS: double
        (D)  TOPOLOGY: linear


    (xi)  SEQUENCE DESCRIPTION: SEQ ID NO: 133:

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CAGGTGTCTC TGTCAAGACC CTGCATCACT ATGACAAGAT AGGACTCTTG GTCCCCTTAA     240

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GGACAGATTT ATTGCCCCAT TTGACTAGGC AGTTGGACTA TCTAACTCGC GAAAGGCAAC     420

ATCTGGATAC CTTGATTTCC ACCTTGCAAA AAACTATTCA AGAACAAAAA GGAGAAAGAA     480

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907

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908

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AACTTAGTTT TTTCTTGATA GGCGGTGATA GCTTCAACCA CTTCTTCAAA AGACAAGCCC      3060

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ACCTGATCAG CTACTTGAAT GGTTAAGGGG ACACTTACAA AGGTTGTGTT AATAGCTGGT      3420

GTTGGCAGTT GACGATAATC ACAACCAGAG TCAGCAATAA TCTTCCAAGT CATAGAAATT      3480

CTCCATCTTT GTCAGGAACG AT                                              3502
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(2) INFORMATION FOR SEQ ID NO: 134:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 12665 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear


    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 134:

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TCTTGCTTGG TTGAGGCAAT GGTGCACAAG ACAATTTTTG ATGGCATGGG CATGGTTGGT       180

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TATCGACGAA TAGCTGAAGA GGAAAAGCTA TTACATGAAG TTATAATCCC AAATGGAAGC       480

ATAAAGAGAT AAATACAAAA TTCGATTTAT ATACAGTTCA TATTGAAGTG ATATAGTAAG       540

GTTAAAGAAA AAATATAGAA GGAAATAAAC ATGTTTGCAT CAAAAAGCGA AAGAAAAGTA       600

CATTATTCAA TTCGTAAATT TAGTGTTGGA GTAGCTAGTG TAGTTGTTGC CAGTCTTGTT       660

ATGGGAAGTG TGGTTCATGC GACAGAGAAC GAGGGAGCTA CCCAAGTACC CACTTCTTCT       720

AATAGGGCAA ATGAAAGTCA GGCAGAACAA GGAGAACAAC CTAAAAAACT CGATTCAGAA       780
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909

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TCTTCTTCGT CAAGTTCAGA CTCTTCCACT AAACCGGAAG CTTCAGATAC AGCGAAGCCA       1080

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GAGAAAAAAG CCAAGGATCA AAAAGAAGAA GATCGTCGTA ACTACCCAAC CATTACTTAC       1200

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911

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912

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913

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AAATCAAGGT TTCACAGCCA GTTTACTTCG ACACAGGTTT GGGTGACGGT CGTATGGTCT    8880

TTGTTCTCCC ACGTGAAAAC AAGACTTACT TTGGTACAAC TGATACAGAC TACACAGGTG    8940

ATTTGGAGCA TCCAAAAGTA ACTCAAGAAG ATGTAGATTA TCTACTTGGC ATTGTCAACA    9000

ACCGCTTCCC AGAATCCAAC ATCACCATTG ATGATATCGA AAGCAGCTGG GCAGGTCTTC    9060

GTCCATTGAT TGCAGGGAAC AGTGCCTCTG ACTATAATGG TGGAAATAAC GGTACCATCA    9120

GTGATGAAAG CTTTGACAAC TTGATTGCGA CTGTTGAATC TTATCTCTCC AAAGAAAAAA    9180

CACGTGAAGA TGTTGAGTCT GCTGTCAGCA AGCTTGAAAG TAGCACATCT GAGAAACATT    9240

TGGATCCATC TGCAGTTTCT CGTGGGTCTA GCTTGGACCG TGATGACAAT GGTCTCTTGA    9300

CTCTTGCTGG TGGTAAAATC ACAGACTACC GTAAGATGGC TGAAGGAGCT ATGGAGCGCG    9360

TGGTTGACAT CCTCAAAGCA GAATTTGACC GTAGCTTTAA ATTGATCAAT TCTAAAACTT    9420

ACCCTGTTTC AGGTGGAGAA TTGAACCCAG CAAATGTGGA TTCAGAAATC GAAGCCTTTG    9480

CGCAACTTGG AGTATCACGT GGTTTGGATA GCAAGGAAGC TCACTATCTG GCAAATCTTT    9540

ACGGTTCAAA TGCACCGAAA GTCTTTGCAC TTGCTCACAG CTTGGAACAA GCGCCAGGAC    9600
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914

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TCAGCTTGGC AGATACTTTG TCCCTTCACT ATGCAATGCG CAATGAGTTG ACTCTTAGCC     9660

CAGTTGACTT CCTTCTTCGT CGTACCAATC ACATGCTCTT TATGCGTGAT AGCTTGGATA     9720

GTATCGTTGA GCCAATTTTG GATGAAATGG GACGATTCTA TGACTGGACA GAAGAAGAAA     9780

AAGCAACTTA CCGTGCTGAT GTCGAAGCAG CTCTCGCTAA CAACGATTTA GCAGAATTAA     9840

AAAATTAAGA AAAAATAAAA GAGGTGGAGG GCAGCATTCC TTGTCGCCCG TCCCTTCTTT     9900

TTAATGGAGA CAGAAAGATG ATGAATGAAT TATTTGGAGA ATTTCTAGGG ACTTTAATCC     9960

TGATTCTTCT AGGAAATGGT GTTGTTGCAG GTGTGGTTCT TCCTAAAACC AAGAGCAATA    10020

GCTCAGGTTG GATTGTGATT ACTATGGGTT GGGGGATTGC AGTTGCGGTT GCAGTCTTTG    10080

TATCTGGCAA GCTCAGTCCA GCTTATTTAA ACCCAGCTGT GACCATCGGT GTGGCCTTAA    10140

AAGGTGGTTT GCCTTGGGCT TCCGTTTTGC CTTATATCTT AGCCCAGTTC GCAGGGGCCA    10200

TGCTGGGTCA GATTTTGGTT TGGTTGCAAT TCAAACCTCA CTATGAGGCA GAAGAAAATG    10260

CAGGCAATAT CCTGGCAACC TTCAGTACTG GACCAGCCAT CAAGGATACT GTATCAAACT    10320

TGATTAGCGA AATCCTTGGA ACTTTTGTTT TGGTGTTGAC AATCTTTGCT TTGGGTCTTT    10380

ACGACTTTCA GGCAGGTATC GGAACCTTTG CAGTGGGAAC TTTGATTGTC GGTATCGGTC    10440

TATCACTAGG TGGGACAACA GGTTATGCCT TGAACCCAGC TCGTGACCTT GGACCTCGTA    10500

TCATGCACAG CATCTTGCCA ATTCCAAACA AGGGAGACGG AGACTGGTCT TACGCTTGGA    10560

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TACAGCTTGC GGCTAGCTTC CTAGTTTGCT CTTTGATTTT CATTGAGTAT TAGAAAACAA    10740

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GCCGAAATGG TCAAATCCTG ATTATGTCAA CGAATTAGAC CCAAAAATCG TTGATATGCT    10980

AGTAGAATTT CACAAGTCAC AAGGCACTTT GGAAACTCCC GAGGCGCAAG CAGAAATCGC    11040

CCAAAAACGT GAAGAAATCG AGCAAAGGAG AGCTGAGCTT GAGGGTAAAA AACAAGAGCT    11100

TTTGAACCGC TTGAACAAAT AGAGTTTCGC AAGTATTATG CTTACAAATT ACTTGAGCAA    11160

TTAACTAAAA TATAAACCCT GCCTTTATAT CTAGGCAGGG TTTATATTTT AGAAATTCAC    11220

GTAGGTTGTT ACGGTTTTTA CATACCCAGT ATAGTTTGAG TTTCTATAGT ATTCAGTGAT    11280

AAACTTCCAT TTTCTTTGAG CAACATGGAT ATAAGTACTT GTTATGTAGT ATGGATATGG    11340

GCTTTGTGAA TCCAAGTAAG ACTGATAAGC TTGTATACCA AAATATGCTC CACCAATTAT    11400
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915

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TGCACCCCAT GGACCCCCCA ATAAAGCACC TATCCTACCA ATCATATAAC TGATTCCAGC      11460

ACCAGTCATG AAGTTAGCGA ATGTGTTAGC TTGTTTATTC CCATGTATTG TGTTGACGTA      11520

ATTCCAAACA TTAGGATCGT ATGATCTAAA AGATATATTT AGGTCGATTT CATTCTTTTG      11580

ATAAGCCATA TAAAATGCCC CATTGATATA GACGCCGTCA GCACGTCGTT CAATAGTGTC      11640

TACACTTCCA TCTGGATTGA CAACCTCAAG AACTTCATCG CTTAAAATAT TTACTTGCGT      11700

ATCTCCGAAC CGCACTGATG AGCCATTCTC AAACTGAGCC TCACCAGATA CAACTTTAGA      11760

GTTTGCCGAT AAGCTATCAT CAGCAAAAAC AAACAAGCGA CGGGGAAATG CTAGACATAC      11820

AGAAAACAGA CATAACTAGC AAACACATGC ATTTAAACAT CTTAGACATA ACGGAAACTC      11880

CTTTGTATTT TTGATTTTTT TCAACTTTTA TTATACAATA AAACCAAATA AAAAGAAAGC      11940

GGTAACAATA TGCTTAATGC GAAAATTTTT TATATATTTT TATGTTTGAT CGTTATCGAA      12000

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ATTATCCTCG CAGTTTTTTC ATTTGCTTTT TACAACCTAT GTTCATTCGC TTGGGTCTGC      12120

TCTACAATAA AAAACAATAA AAAATAAATA GACGTATTTT CAAAAAAAAC maAATGCATA      12180

TTTATATTAG CAAAACGACG ATTTAAATCG TCGTTTTTTT GTAGTACGAC GGGCATGTCG      12240

TATATCTGAG GTGTAAGTCC TCAGCCTGAC TATCGTGAGG TAGCAGGGAG AGGAAGGGAT      12300

AGCGAAATCG TGGCTCTACG AACAGGAACG TGATAGTAAG GCGTATATAG CGGATAAGGA      12360

GGCTTCAAAC TCTAAAGTCC AAAAAGGTAG TCGTAACCTA TATGTGTAAA TCACGAGAGT      12420

AATTGAATTC GGACTAAGGT TTGTGTGAAA AAGATAAATC TTTCTAGAGT CTAAAGACTC      12480

TGCGTCAGAT TTCCTATTTT CACTGTAACC TTTTAACGTC CTCATATCTT GTATAAACGA      12540

GGAAAGATGT ACGACTTATC CCGTGAGGTT TCATGAGCGT GAAAGCGTAG TAACAACGAA      12600

TCATGAGAAG TCAGCCGAGC CCATAGTAGT GAGGAAACTT CCGTAATGGA AGTGGAGCGA      12660

AGGGG                                                                 12665
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(2) INFORMATION FOR SEQ ID NO: 135:

     (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 5305 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear


     (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 135:

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CGCTAATCAC TACAATCATT TTATTGTACT TTTTCACTCT CAAGAAAAGC AAGAAGTATT         60
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916

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CATTTTAGTT TCATTTAGTA TTATTTTGCA TACCTAAAAT ACAGTAAAAA ATCAGTCATC    120

TTGGTATGCT CCTGCTTTCA CTATTCAACA CGTTTTTGAC TTATACTAGG CTCATTTCCA    180

AAAGCATTAT ATAATAGTGA TATGAAACCA ACTAAACTAA ACAAGAAATA TAAGCAATAA    240

AAATTCGTTT AAAAGATCTT ACTAAAGCTA ATACTAAATA AAAATAAAAG AGTAAACTAG    300

GAAGTTTATT TCAAACAACC TAAAATACTG ATTTTCGGCT GAAGATAATA CTGGAGTGCA    360

AATTAATGGG GTTATAATAA ATAGCTGATA GCTTGTGTTG GTTTTGGATT TTTTAAGAGT    420

AGATGAGTAT TAAAACTATA AGGAGGACGA AGGTGGCTAA AAATTTAAAA TTAAAATTAG    480

CTCGGGTAGA GCGTGATTTA ACACAAGGTC AACTGGCAGA GGCTGTCGGG GTGACACGCC    540

AGACTATTGG TTTAATAGAG GCGGGAAAAT ACAATCCCAG TCTCTCGCTC TGCCAGTCTA    600

TTTGCAGATG TTTAGGGAAA ACCCTAGACC AACTATTTTG GGAGGAAGAA GATGAAAAAT    660

AGATTTTATT ATTCTCAATT ACTAGACGAA AGAGAAGAAC AACTGTTCAA TAAAGCGGGC    720

TCTGAAAGTT TCTATATCTG CATTGCTTTG TCGCTCCTAT CTTATATCAT TTCAGTATTA    780

GCACCAAGCC TTTTTAATTC TAATATGCTG CTAATCGTTA TCATCATAGG GACATTTTAC    840

TTTTTCAATC GTGCCCGTTA TCTGGGAGTG ACCTACTATG GTCGTTTTCA TTTTACGATT    900

TTGGGTTGTT TTTTCCTAAC CTTGGCTATT ACGGCTCTTT TGATGTTGCA GAATTATCAA    960

TTCAACATAG AAATTTATCA GCACAATCCT TTGAATTTTA AATACCTGTC TGCTTGGGTC   1020

ATTACTTATA TCATTTACCT TCCGTGGATC TTTATTGGCA ATCTTGGTCT TAAGAGCTAT   1080

GGCGAATGGG CTCAGAAAAA ATTTGAACAA GATATGGATG AATTGGAGAG TGGAGAATAG   1140

CTTGTTACTC TTTTCTCAAT CCAGCTAAAA TGTGATATAA TAGTACTAAT TTATTGGAAT   1200

ACATGAAAGT TCTTGAAAAT TTTCATGGGT TTCTAGCTAA GGAAGTAGGA AAAGTATGTA   1260

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CTTTGACCAA GGGATTCACA ATAAGAAGGC GGTCTTTGAG GTGTATTTCC GCCAACAGCC   1380

TTTTAAGAAC GGCTATGCGG TTTTTGCAGG TTTAGAAAGA ATTGTGAACT ATCTTGAAGA   1440

CTTGCGTTTT TCAGATAGTG ATATAGCCTA TTTGGAGTCG CTTGGTTATC ATGGGGCGTT   1500

CTTGGATTAC CTTCGCAATT TCAAGTTGGA GTTGACCGTT CGTTCTGCCC AAGAAGGGGA   1560

TTTGGTTTTT GCTAATGAAC CGATTGTGCA GGTGGAAGGA CCTCTAGCCC AATGTCAGTT   1620

GGTCGAAACG GCTCTTTTGA ACATCGTCAA CTACCAGACT TTGGTGGCGA CGAAGGCAGC   1680

TCGTATTCGT TCGGTTATCG AAGATGAACC CTTGATGGAG TTTGGGACAC GTCGGGCTCA   1740

AGAAATGGAT GCGGCCATCT GGGGAACACG CGCAGCTGTG ATTGGTGGCG CCAATGGAAC   1800

CAGCAACGTG CGTGCGGGTA AGCTCTTTGA CATTCCTGTT TTGGGAACCC ATGCCCATGC   1860
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917

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CTTGGTACAG GTTTATGGCA ATGACTATGA AGCTTTCAAG GCTTACGCTG CGACCCACAA   1920

AAAATTGTGTC TTTCTTGTGG ATACCTATGA CACCCTTCGC ATCGGTGTAC CAGCTGCCAT   1980

TCAGGTGGCG CGTGAGCTGG GTGATCAGAT TAACTTTATG GGTGTGCGGA TTGACTCTGG   2040

GGATATTGCC TACATTTCTA AGAAAGTCCG TCAGCAACTG GATGAGGCTG GATTTACAGA   2100

GGCTAAGATT TATGCTTCTA ATGATCTAGA TGAAAATACC ATCCTTAACC TCAAGATGCA   2160

AAAGGCCAAG ATTGATGTCT GGGGTGTGGG TACCAAGCTG ATTACAGCCT ATGACCAGCC   2220

GGCTCTTGGG GCGGTTTACA AGATTGTTGC AATCGAAGAT GAAACTGGTC AGATGCGCAA   2280

TACGATTAAG CTGTCTAATA ATGCTGAAAA AGTTTCTACG CCAGGTAAGA AGCAGGTGTG   2340

GCGCATTACC AGTCGTGAAA AAGGCAAGTC AGAAGGCGAC TATATCACTT ATGATGGTGT   2400

GGATATTAGC GACATGACAG AAATCAAGAT GTTCCATCCG ACCTATACAT ACATCAAGAA   2460

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AGTTTACAAC TTGCCTAGTT TGACTGACAT TCAGGATTAT GCCCGTAAGG AATTTGACAA   2580

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TGATGTATGG CAAGATAAGA TGGACTTGAT TGATAAGATG CGCAAGGAAG CCCTTGGTGA   2700

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CATCCCTTCC TAAAAACCTT TGTACTAGGG ATTTCTGGGG GACAAGACTC AACCTTGGCA   2880

GGACGTTTGG CGCAATTAGC TATGGAAGAA CTGCGAGCTG AAACGGGAGA CGATAGCTAC   2940

AAATTTATCG CTGTCCGCCT GCCATACGGA GTGCAAGCTG ATGAAGCAGA TGCTCAAAAA   3000

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GTCATTGGAA CAGACCACGC CGCGGAAAAT ATCACAGGTT TCTTTACCAA GTTTGGTGAC   3240

GGCGGTGCGG ATATTCTCCC TCTTTACCGC CTCAATAAAC GCCAAGGAAA ACAGCTCTTG   3300

CAGAAACTTG GCGCAGAGCC AGCCCTTTAT GAAAAAATCC CAACGGCAGA CCTAGAAGAA   3360

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TACCTAGAAG GCAAAACAAT CAGCCCAGAA GCTCAAGCGA CCATTGAAAA CTGGTGGCAC   3480

AAAGGCCAAC ACAAACGCCA CTTACCCATC ACCGTATTTG ATGACTTTTG GGAGTAAAAA   3540

GGTCCGGGGG ACCTTTTTAG CTTCTTGCCC TGAAATTAAA AAGCAAGAAA AACCTCCACT   3600
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918

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GGAGGTTTTC AGCCTCTCAT CTTGAAATAA GAAAGTGAGA GAAGGTCTGG GGGATCTTGA    3660

ACCCCGAGTT TAGAAATAAG AAAATGAGGC AGATTCAGTA ACTCGAAGAG TTCGATTTCA    3720

TCGTCTTACC CCTGCAACGA TGACTAGGTT TGAAAAAGCT TGCTAGAGCG CATTTCAAAC    3780

CAGGCAGCAA CTGCGTCAAG AAATTAGAAG ACAAACTCGT TTTCTAGCTG TTACTGAGTT    3840.

GAGCCTTTTT ACTACGAGTA TAGAAATAAG GAAGTGAGGT AGCATCATGA AATCTATCGG    3900

TACGCAAATA TTACAGACAG AACGTTTGAT TTTAAGAAGA TTTGTGGAGA GTGATGCAGA    3960

AGCCATGTTT CAAAATTGGG CTTCATCCGC TGAGAATCTG ACCTATGTTA CCTGGGATCC    4020

CCATCCTGAT GTCGAAATCA CTCGAAACTC GATTTGCAAT TGGGTTGCTT CCTATACTAA    4080

TCTCAACTAT TATAAATGGG CCATTTGTCT AAAAGAAAAC CCAGAGCAAG TAATAGGAGA    4140

TATCAGCATT GTTAAGATAG ACGAGGCTGA TTTAAGCTGT GAAATTGGCT ATGTGTTAGG    4200

CAAGGCTTAC TGGGGAAATG GTATGATGAC AGAGACTTTG AAAGCTATCT TGGACTTTTG    4260

TTTTACTCAA GCAGGTTTTC AAAAGGTCAG AGCACGTTAT GCCAGTCTCA ACCCAGCTTC    4320

AGGTCGTGTC ATGGAAAAGG CTGGAATGTC CTATCTACAA ACCATTGTTA ATGGTGTAGA    4380

GAGAAAAGGC TATCTTGCGG ATCTTATTTA TTATGGTATA AGTAGGGAAG AATGTTGAAT    4440

TCTATTTTCT GTTTCTATCG AAGTCAACTA TTTATTGTAA ATATAATAAT TAGCATTCCA    4500

AGTTTATTTG AAACTTTAAA ATAGCATATT GATTAGTACA AGACAGATGT TCTAGTTCCT    4560

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AATAGGCATA GAGACTAGAC AATTTGAGGA GCTGCTTGCG TCCTGTTCGA ACACATTTTC    5160

CCACCACGTG AAGAAAAAGA TGGCGGAAGC GTTTGATTGT TAAAGTTTGG AAGTCACCTC    5220

CAGCTAGATG TTTGAGAAAA AGATAGAGAT TGTAGGCGAT ACAGCTCATC ATCATACGAA    5280

CTTCGTTTTT GATTAAGGTT GAACT                                        5305
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(2) INFORMATION FOR SEQ ID NO: 136:

919

(i) SEQUENCE CHARACTERISTICS:
    (A) LENGTH: 3964 base pairs
    (B) TYPE: nucleic acid
    (C) STRANDEDNESS: double
    (D) TOPOLOGY: linear


(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 136:

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TGGCAGCTCG TCGTCGTAAA GGACGCAAAG TTTTGGCTGC ATAATCCAAA CGAATTCTAT        60

CAAAAATCAG TAGGAACTCG AGTCTACTGA TTTTTATTTT TGTAAAAAAG TTCAGTAGAT       120

GCAAATGGAT TCGGAAGCGA TGTTACAGTA GATTGAAACT AGAATAGTAC ACCTCTGTTT       180

CTAAAACATT GTTAGAAATC GATTTGACTG TCCTGATCGA TTTGTCCTGT TATTATTTTA       240

TTTTACTATA AAGTTGAAGT AGGTGGAGAT GGTACAGCAA CAATCGTCTT TAAAGATGGT       300

TCAGCTATTA CAATTCCAGG AAATCAATTG GTAGCACAAG ATCCAAAAGC ACAAGATAGC       360

ACTAAACTGA CTGCTGAAAA ATCAACTGTT AAAGCACCTG CTCAAAGAGT AGATGTAAAA       420

GATATAACTC ATTTAACAGA TGAAGAAAAA GTTAAGGTTG CTATTTTACA AGCAAATGGT       480

TCAGCATTAG ACGGAGCGAC AATCAATGTA GCTGGAGATG GTACAGCAAC AATCACATTC       540

CCAGATGGTT CAGTAGTGAC GATTCTAGGA AAAGATACAG TTCAACAATC TGCGAAAGGT       600

GAATCTGTAA CTCAAGAAGC TACACCAGAG TATAAGCTAG AAAATACACC AGGTGGAGAT       660

AAGGGAGGCA ATACTGGAAG CTCAGATGCT AATGCGAATG AAGGCGGTGG TAGCCAGGCG       720

GGTGGATCAG CTCACACAGG TTCACAAAAC TCAGCTCAAT CACAAGCTTC TAAGCAATTA      780

GCTACTGAAA AAGAATCAGC TAAAAATGCC ATTGAAAAAG CAGCCAAGGA CAAGCAGGAT       840

GAAATCAAAG GCGCACCGCT TTCTGATAAA GAAAAAGCAG AACTTTTAGC AAGAGTGGAA       900

GCAGAAAAAC AAGCAGCTCT CAAAGAGATT GAAAATGCGA AAACTATGGA AGATGTGAAG       960

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GCTCCTAATG CTGCTCCTAA GACAACAAGT GCACCGCAAG CAACTGCAGG AACAATGCAA      1080

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GCAGCACTTG CTAGTCTTGG TCTAGTGGTG GCAACAAGTG GTTTTGCTTT GCTAGGAAGA      1200

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GATAATCACA TACTTTAGCT GAATAGGAAT ATTCTATCAA TGTAGCCAAT CTCTTCTGTC      1380

TCTAACTGTG GAATAGGAGA TGGGCAATAT CGGATAGAAA AGATAGCAGA ATAGCTCTCT      1440
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                                       920
ATTGAAGAGA GGAGGGGAAA CCGAAAAATT AGGTGCCCCT CCTCTTTTTT GGTATAATAG     1500

AAGATAGAAA ACGAGGTTAG AAGAGATGAT TTTTGATACA CATACACACT TGAATGTAGA     1560

AGAATTTGCA GGTCGTGAGG CAGAAGAAAT TGCCTTGGCT GCTGAGATGG GTGTGACACA     1620

GATGAATATT GTTGGTTTTG ATAAACCGAC GATTGAGCAT GCCTTGGAGT TGGTAGATGA     1680

GTATGAGCAG CTCTATGCGA CTATTGGTTG GCATCCTACA GAAGCTGGTA CTTATACAGA     1740

GGAAGTTGAG GCTTACTTGT TGGATAAGTT AAAACATTCC AAGGTTGTGG CTTTAGGTGA     1800

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CCGTCAGATT CAGCTATCTA AGGACTTGGA TTTGCCTTTT GTTGTCCATA CCCGTGATGC     1920

GCTGGAAGAT ACCTATGAGA TTATCAAGAG TGAGGGCGTT GGTCCTCGTG GTGGTATCAT     1980

GCATTCATTT TCAGGGACGC TTGAGTGGGC AGAGAAGTTT GTGGATCTTG GTATGACCAT     2040

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GCGTGGTCGT GAAAATAAAA CAGCCTATAC TCGCTATGTG GTCGACTTTA TCGCTGACTT     2220

GCGTGGTATG ACGACAGAAG AGCTGGCGGT AGCAACGACT GCAAATGCAG AACGAATTTT     2280

TGGACTGGAC AGCAAGTAAT GAAAGAGAAA ATTTCTCAAG TTATCGTGGT TGAAGGGCGT     2340

GATGATACGG TCAATCTCAA ACGTTATTTC GATGTGGAGA CCTATGAGAC TCGAGGTTCT     2400

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GTCTTTACAG ACCCAGATTT TAATGGGGAA CGGATTCGGC GCATGATCAT GATGGTCATT     2520

CCAACAGTTC AGCATGCCTT TCTCAAGCGA GATGAAGCTG TTCCCAAGTC CAAGACCAAG     2580

GGGCGTTCTC TGGGAATTGA GCATGCCAGC TATGAAGACC TGAAAACGGC TCTAGCTCAA     2640

GTGACAGAAC AATTTGAACA TGAGAGTCAG TTTGACATTA GTCGTAGCGA TTTGATTCGC     2700

CTTGGTTTTC TAGCAGGGGC AGACAGCCGT AAGCGTAGAG AATATCTCGG AGAGACTCTC     2760

CGAATCGGCT ATTCCAACGG CAAGCAACTC CTCAAACGCC TAGAGTTGTT TGGGGTTACT     2820

TTGGCAGAAG TGGAAGAAGC TATGAAATCT TATGAGTAGG AAAGATGTAG CCGTTACAAT     2880

TTTTTAAGTT TCACAGTATT TTTCGAAGCA GGTAGAAGAG GAGGCGTCTG ATGTTAATTG     2940

GTCAAAAAAT TAAAGAGATT CGGATAGAAA AAGGAATTAG TCGTCCAGAT TTTTGTGGAG     3000

ATGAGCAAGA ACTGACAGTT CGTCAACTGT CGCGAATTGA AAGTGGAGCT TCGCAACCGA     3060

GTTTGCCCAA GTTAGACTAT ATTGCTCGCC GGCTAGGAGT TCCAGTTTAT AGCCTTATGC     3120

CGGATTTTTC AGCTCTTCCT TCTGCTTATT TAGAATTGAA ATACCAGATT TTACGTGAAC     3180

CAATCTATGG TAAAGAAGAG GAGTACGATA AGAAGGAAGC GTGTTTGGAA GAGATTTATA     3240
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921

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AAACATACTT TGATAATCTT CCTAAAGAAG AACAATTAGC ATGTGAAGTA TTGCAGGCGT      3300

GTTTGGATAC TTCTAGAACT AGAAGGCCTG AATATGCAGA GTTAATACTT GAGGAACATA      3360

TGCCTCAGAT TATAGAAAAA GAAGCTTATT CAATAAATGA TATGTTGTTG ATTCGTTTGT      3420

TTTTTTATCA AATGCTCATT AGAAAAGATC TTGCCAAATT TATAAATCAA ATCGAAAAGC      3480

TAATGCTCTT TCTTTTGGAA CAGAAGAAGG TAACTCAAAT AGAGAATTAC TTTATAATTA      3540

GAGATACTCT TATTTCAGGA ATGTGTTGTC TTGAAAAGGT AGGAGTAACT GATTGTTTTA      3600

ATGATTATCT ATCGTGTTTA CAAGAAATTA TGGATAAAAC TCAAGATTAT CAAAAGAAAC      3660

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CTGAATCATT TTATCAGTCT TCTAAAACAT TTGCGCAGCT AATTGGAGAT GAATTCTAG       3780

TAAAGAAATT GACAGAGGAA TGGCAAGAGG ATGTCAAAAA ATATTTATAA ACATAGTGAA      3840

TCAGTGACAA AGATGTCCTT GTCCTCGTAT CAAAACAGTT CTAAAGTTCG TCTTTAGGGA      3900

TGTTTTTTTA GATATAAGCT AAAAATGACA CGAAATGGTT AGATTTTAAG GACATTGATG      3960

TCCG                                                                   3964
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(2) INFORMATION FOR SEQ ID NO: 137:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 12666 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 137:

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TGAGACCGTT ATTTGTATTA GGGAAATGGG TATCTATTTT TAATGCTGTG GGGATTTTGA        60

TTGTTTCTAT TATTCAAACC AAAAGCTTGT CAGGTATTGG AGCAGGATTG TTTAATCTAT       120

ATAACATTTC ATCTTATATA GGTGATTTAG TTAGTTTCAC TCGATTGATG GCATTAGGAT       180

TATCTGGAGC AAGTATAGCA TCAGCTTTCA ATTTAATTGT TGGTTTGTTT CCGGGAATAT       240

TGGCTAAACT GACAATTGGA TTAGTATTAT TCATTCTTTT ACATGCGATC AATATTTTTC       300

TATCGTTACT ATCAGGATAT GTTCATGGAG CACGTCTGAT ATTTGTTGAA TTTTTTGGTA       360

AGTTTTATGA GGGTGGAGGA AAACCATTTC AACCTTTGAA GGCTTCTGAG AAATATATTA       420

AGGTTATTAC AAAGAATTAA TGGAGGATAT ATATAATGGA ACATTTAGCA ACTTATTTTT       480

CAACCTATGG AGGAGCTTTC TTCGCTGCAT TGGGAATTGT ATTGGCGGTT GGATTAAGCG       540

GTATGGGGTC TGCTTATGGA GTTGGTAAGG CTGGGCAATC TGCCGCAGCT TTACTGAAAG       600
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922

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AACAGCCTGA AAAGTTTGCC TCAGCTTTGA TATTGCAATT ATTGCCCGGA ACACAAGGAT      660

TATATGGTTT TGTTATTGGA ATTTTAATTT GGTTGCAATT AACTCCAGAA CTTCCTTTAG      720

AAAAAGGCGT TGCTTATTTC TTTGTAGCTC TTCCAATTGC TATTGTAGGA TACTTTTCAG      780

CTAAGCATCA AGGAAATGTA GCAGTAGCGG GAATGCAAAT CTTGGCTAAA AGACCAAAAG      840

AATTCATGAA GGGAGCAATT TTAGCTGCCA TGGTAGAAAC CTATGCAATT CTTGCTTTTG      900

TCGTATCATT CATTTTGACC CTTCGTGTAT AAGAAATAAA TTTGCAATTC AAAGGAGGTG      960

TCTAAATGAG CAATTTAGAA AACTTACGAG AGTCTGTTAT TGAACAAGCT CATGAAAAAG     1020

GGCGTATGAA ATTATTGGAT TCCAAAAAGA AGATTGATGA TGAATTTGAA ATGCAAAAGT     1080

CGCTCATTAT AAAGAAAAAA GAAGCTGAAC ATGAACGAAA GTTAAAAGAA TTGCAACAGA     1140

AATATCAAAT AATTTTTCAA CAATTAAAAA ATAAGGAACG CCAATCAACG TTAGTATCAA     1200

AACAGAAAAT ATTAAAAGAA CTTTTTCAAT CTGCTTTACT AGAAATGGAA TCTTGGAGTG     1260

CAGATAAAGA AATGGAGTTC ATCTATCGAA TTCTGGAACG ATATTCACAA CAAGAGGTCA     1320

TAGTAACCTT TGGGGAACGG ACTTTAGCTA AATTCAATTT GGAACAATTA GAGAAATTGA     1380

AATTCTCTTT TCCAAATTAT TTATTTAGTG AACAACCTAT CTCAAATGAA TCAGGCTTAC     1440

TTATTTCAAT AGGTAAAAATT GATGATAACT ATTTGTATAA AACATTAATT GGATCGATTT     1500

CTAAGGAAGA AAGTTCAAGT ATCGCAAATC AAATTTTTAT CAATTAAGGA TGAAATTGGT     1560

TAATCCTTCT TAGAAATTTG GAGTATTCCA ATAAAATTAG AAAGGTATTT TATGGATACT     1620

AATCTTTTTT CAAAAATAAA TACGACGATT TCGGTAAAAG AAAACGATTT TATTACAGAA     1680

GAAAAATTTC AAAAAATTAT ACAATCCAAA GATACGGAGA CATTGGCATT TATCTTAGAA     1740

TCAACTCCCT ATCATTTATC GATTGACATC TTAGAAGATC CTAGTCAGAC AGAGATTTCG     1800

CTAATGACAA AATTAGTCAA TGATTATAGA TGGGCCTATG CTGAAAGTCC GTCTGATATA     1860

ATTGTGACTT TATTTGCTTT ACGATATGTT TATCATAATA TCAAAGTTTT ATTAAAATCT     1920

AAGGCGGCAA TTAAGAAAGA TTTTTCTAAA TTATTAATTC CAATAGGGAT TTTTGATATA     1980

GAAAGTTTAA AACATTTAGT TTCTTCCTTA CATTCAGATA CACTTCCTGA TTTTATGGTT     2040

CGTGAAGTAG AATCAATTTG GAATGAGTAT GAAACTTTTA ATAATATTCG TGTACTTGAT     2100

GTCGGAGCTG ATCTAGCATA TTTTAAACAT CTGAAACTTT TATCTAATGA GTTAGATGAG     2160

GTACTGTCTC AGGTTATTGT CGAAATGATT GACTTTTATA ATATTATTAC TGTAAAACGT     2220

GGTTTATCTC AAAATAAGAG TCATGGGGAT ATTTTACAAT TACTTTCAGA TGAAGGAAGT     2280

ATTTCTGCTA AAGAATTTAT ATACATTGTA GAAAATCAAG AAATATTTGT GTGGTTCAAT     2340

AAAATAAATC CAAGCTTAGA TTCAATCTTT TCAACTTATG AATTGAAGAT GCAGGACGCA     2400
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923

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ACAATTTCAT CTTCTGAGTT AGAATTTTTA TGTGATTTAC TATTGTATAA AACTTTAGAT    2460

CAAGGAAGGT ACAATGTAGA GGGGCCGTTA GTTCTTGCTA GATATTTATT GGGATGTGAG    2520

TTTGAAGTAA AGAATCTCAG AATGATCATA TCAGCTCTTC AAAATACAAT TCCCTTTGAA    2580

TCAATAAAAG AAAGGATACG CCCACATTAT GGAAGCTAAT AAGTATAAAA TTGGCATAAT    2640

TGGTAGCCGT GATATTATTT TACCATTTAG CATGATTGGG TTTGATATAT TTCCTGCCTA    2700

CCAAGAACAA GAAGCTATAA ATACACTAAG AAAATTAGCT CAATCTGATT ATGGTGTCAT    2760

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TCTGGCGATT TTACAATTGA TGAAGTTGTA TATGAAATAA AAAAATTGGA CGGTAGTTTC    3540

TATAAAGGAA CGCTTATGCA AAAATGGCCT GTCCGCAAGG CGCGTCCTGT TTCTAAACGT    3600

TTAATTCCAG AAGAACCATT AATCACAGGT CAACGAGTTA TTGATGCATT CTTTCCAGTA    3660

ACCAAAGGGG GAGCTGCAGC AGTTCCTGGA CCGTTTGGAG CAGGAAAGAC AGTTGTACAA    3720

CACCAAGTAG CTAAATTTGC CAATGTTGAT ATTGTTATTT ATGTCGGTTG TGGAGAACGT    3780

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CGTGAGGCTT CAATTTATAC AGGAATTACC ATGGCTGAGT ATTTTCGTGA TATGGGCTAC    3960

TCTGTCGCCA TTATGGCTGA TTCAACTTCA CGTTGGGCAG AAGCGCTACG TGAAATGTCA    4020

GGACGTCTAG AAGAAATGCC TGGTGATGAG GGTTATCCTG CTTATCTGGG AAGTCGTATC    4080

GCTGAATATT ATGAAAGAGC AGGACGTTCT CAGGTTCTAG GGCTTCCAGA ACGTGAAGGA    4140
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924

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ACGATTACTG CTATTGGAGC TGTATCGCCA CCTGGTGGAG ATATTTCAGA ACCAGTTACT    4200

CAAAACACTT TACGGATTGT GAAAGTTTTT TGGGGGCTTG ATGCTCCGTT GGCACAGCGA    4260

CGTCATTTTC CTGCAATTAA CTGGCTTACA TCTTATTCAC TATATAAAGA CAGTGTGGGC    4320

ACTTATATAG ATGGTAAAGA GAAGACAGAT TGGAATAGTA AAATAACTCG TGCGATGAAC    4380

TACTTACAAC GGGAATCTAG TTTAGAGGAA ATTGTTCGTC TTGTTGGAAT TGATTCTCTG    4440

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ACTGCGGCAG AGTATCTAGC TTTTGAAAAA GATATGCACG TTCTAGTTAT CATGACGGAT    5520

ATGACTAACT ATTGTGAAGC GTTACGTGAA GTCTCGGCAG CTCGCCGTGA AGTTCCAGGG    5580

AGACGAGGCT ATCCGGGATA TTTATATACA AATTTATCAA CTCTATACGA AAGGGCTGGT    5640

CGCTTAGTTG GTAAAAAAGG TTCGGTGACA CAGATTCCTA TTTTAACAAT GCCAGAAGAT    5700

GACATAACAC ATCCAATTCC TGATTTAACT GGATACATTA CTGAAGGGCA AATTATTTTG    5760

TCGCATGAGT TGTATAATCA AGGTTATCGT CCACCAATCA ATGTTTTACC TTCTCTCTCT    5820

CGATTAAAAG ATAAGGGATC TGGAGAAGGT AAAACTCGTG GAGATCATGC TCCAACTATG    5880

AATCAACTGT TTGCAGCCTA TGCCCAAGGG AAAAAGGTTG AAGAGTTAGC AGTAGTATTA    5940
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925

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GGAGAATCGG CTTTATCTGA TGTAGATAAA TTGTATGTGA GGTTTACAAA GCGTTTTGAA    6000

GAAGAGTACA TAAACCAAGG ATTTTATAAA AATCGAAATA TAGAAGATAC GTTGAATCTT    6060

GGGTGGGAAT TACTATCAAT TCTTCCTAGA ACAGAGTTAA AACGTATCAA AGATGATTTG    6120

CTTGATAAAT ACTTACCTTT GGTAGAAGTT TAATCCGGAA ATGGAGTGAT TATCTATGGT    6180

ACGTTTGAAT GTAAAACCAA CTCGTATGGA ATTGAATAAC TTAAAGGAAC GTTTGACAAC    6240

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TTCTTTGATT CGTGAGAATA ATCAACTTCG GAAAGAAGTG GAAAGTTATC TAATTGATAA    6360

TCTAAAATCC TTTGCAGTTG CTAAATCATT AAAGAATTCT CAAATGGTGG AGGAATTATT    6420

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AACCCACTTT GAATTGGATC CTTTCTCCGG TCAAGTCTTT CTCTTTTGTG GTGGACGTAA    7380

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ACAAGTAGAC TGGCTTATGA AGGGCTTTTC TATCACTCCA AAAATATAGT AGATTGAAAC    7560

TAGAATAGTA CACCTCTGCT TCTAAAACAT TGTTAGAAAT CGATTTTACT GTCCTGATCG    7620

ATTTGTCCTG TTCTTATTTC ATTTTACTAT AAATCCATCA GAAAGTCGTG ATTTCTATTG    7680
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926

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AAATGAGGAC TTTCTTTTTA TACTCATCTG CTTTCAAAAA GCATTCTAGT CCATCTCCGA    7740

TTAACGATGG ACTTTATCAC CTCCTTCTCC AGTCCTTGTA TAACATCTTG GAGTTGATTC    7800

ATGACATCTT CCAAAGTTTA AAAGGCTTTA TTCTTAAATC CACGTTTACG AATCTCTTTC    7860

CACACTTGTT CAATGGGGTT CATCTCTGGT GTGTATGGAG GAATAAATGC AAAGCCAATA    7920

TTAGTCGGAA TCTTTAAGGT ACTTGATTTA TGCCATATAG CATTGTCCAT AACGAGTAAA    7980

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TTAGGAGCTA AAGGTTTAGC TTATTGTGAT CAGTTATTTT CCTTGGAAAG AGACTGGGAG    8700

GCTTTGCCAG CTGATGAACG ACTACAGAAA CGTCAAGAAC ATCTCCAGCC CTTAATGGAA    8760

GACTTCTTTG CTTAGTGCCG GCGTCAGTCA GTTTTAGCAG GTTCAAAACT AGGAAGGGCA    8820

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GGAAACTCTC GTAAACAAAG AGGTTTTAGA GGCTTATTTA CCATGGACTA AAGTTGTACA    9180

AGAAAAGTGC AAATAAGAAA TCTCCAGATT AGGAACTATC CGTGAGTTCT CCAGTCTGGA    9240

GATTTTTCAA TAGACTTCCT GCGAAACAAA ATATGGTATA ATAGTTCTAT GAATGATGAA    9300

GCAAGTAAAC AACTAACCGA TGCACGATTT AAGCGTCTTG TTGGTGTTCA ACGCACGACT    9360

TTTGAAGAGA TGTTAGCTGT ATTAAAAACA GCTTATCAAC TTAAACACGC AAAAGGTGGA    9420

CGAAAACCTA AATTAAGTCT AGAAGACCTT CTTATGGCCA CTCTTCAATA TGTGCGAGAA    9480
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927

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TATCGAACTT ATGAACAAAT TGCGGCTGTT TTTGGTATTC ACGAAAGCAA CTTAATCCGT      9540

CGGAGCCAAT GGGTTGAAGT AACTCTTGTT CAAAGTGGTG TTACGATTTC AAGAACTCCT      9600

CTCAGTTCTG AGGACACGGT AATGATTGAT GCGACGGAAG TAAAAATCAA TCGCCCTAAA      9660

AAAAGAATTA GCGAATTATT CTGGTAAAAA GAAATTTCAC GCTATGAAGG CTCAAGCGAT      9720

TGTCACAAGT CAAGGGAGAA TTGTTTCTTT GGATATCACT GTGAACTATT GTCATGATAT      9780

GAAGTTGTTC AAAATGAGTC GCAGAAATAT CAGACAAGCT GGTAAAATCT TGGCTGACAG     .9840

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ACTCAAACCG CTAACAATTG AAGATAAAGT CTATAACCAT GCGCTATCTA AGGAGAGAAG      9960

CAAGGTTGAG AACATCTTTG CCAAAGTAAA AACGTTTAAA ATGATTTCAA CAACCTATCG     10020

AAATCATCTA AACGCTTCGG ATTACGAATG AATTTGATTG CTGGTATTAT CAATCATGAA     10080

CTAGGATTCT AGTTTTGCAG GAAGTCTATT ATCAAAAATA CCATCAAGAT TATATAAGAT     10140

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TCTTTTTGTT TAATACTCTT TGAAAATCTC TTCAAACCAC GTCAGCTTTG CTTTACCGTA     11100

CTCAAGTACA GCCTGCGGCT CGCTTCCTAG TTTGCTCTTT GATTTTCATT GAGTATAAAA     11160

AGGGTCAAGT AAGTATAGTA AATTGAAATA AGATATGAAC AAATCGATTA GAAAAGTCAA     11220
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928

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ATTAATTTCT AGAAATATGT TAGAAATTGG TTTGAATTCC GCAATCAATT TGTTCAGTTT    11280

TTATTTCATT TCATTTTATT TAATTAGATT TTCCAATTTT TTAATTCAAG CTAAAAATCC    11340

CCAATCGTAG TGATTGAGGA TTGAGTAAAT AAATCTTAAA CAATACCTTG TGCAATCATG    11400

GCATTTGCTA CATTTTCAAA GGCAGCAATG TTAGCTCCTG CAAGGTAGTC TTTATCAAGA    11460

CCGTATGTTT CTGAAGTCGT TTTAGCTGTG TTGAAGATGT TTGTCATGAT GTCTTTGAGA    11520

CGGCCATCAA CTTCTTCACG AGTCCATGAG AGGCGAAGAC TGTTTTGGCT CATTTCAAGA    11580

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ACCAAAAGAT CGAAGTCGAT ACCATTTTCA TCGATGACAT AACCATTTGA GTCAGAAACA    11940

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TAACCACGGT TTACTTGAAT TTTTCCATCA CGGTCAACCC AAGGAACACG GAAAGAAACC    12540

ACGCGCTCAG GCTCAGTAAT ACGTGCCAAG ATATTTTCTT CGATATACTC AGGGTGTTTT    12600

TCAAATACAG GTTCTAAAGT GTTGAAAAAT TCTTCAACAG CTTGGAGGAA TTCAGCCTCG    12660

TGCCGG                                                               12666
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(2) INFORMATION FOR SEQ ID NO: 138:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 3083 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear

929

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 138:

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AGCAACTGTT GTGAACCAAT TCCGATAAAT TCCAAGAATT GGTTAATAGA GCCATTTTGA        60

CCAAAAATCC CGATAAAAGC ATAGGCTTTA AGGAGCAAAT TGATCCAGGT AGGAAGGATA       120

ATCAGCATGA GCCAGAGTTG ACGGTGTTTG AGACGGGTCA AAAAGAGGGC CGTCGGATAA       180

CTGATAAGCA GTGCCACAAA GGTCACAATG CCTGCATAAA GCACTGAGTT GAAACTCATT       240

TTAAGATAGG TCAAGTTTTG TGACGCAAAG TAAGATTTGT AATTTTCTAA ACTGAACTGG       300

CCTTCGATGT TGAAAAAGGA TTGACCGAAA ATCAAGACCA AGGGTGCCAA TACAAAGAGC       360

GCAATCCAAA GCATGTAGGG TACTACAAAG AGTTTAGAGC TTGTTTTCTT CATCTCTTTC       420

CTCCTCGATT GCATTGATCA AACCTGCTTC TTGCTCTTCG ATTTCTACGT ACTCCTCAAT       480

ACGAGCATCG AACTCTTCTT CGGTTTCATT GAGACGCATG ATGTGGATGT CTTCTGGTTC       540

AAAGTCCAGA CCGATTTCCT CACCCACGAT AGCCTTACGG GTTCAGTGGA TCATCCATTC       600

ATTTCCAAGT TCGTCATAGG CGATAATTTC ATAATGAACT CCACGGAAAA GCTGGGTATC       660

GACCTTAACT TGGAGCTTGC CTTCTTCAGG AAGGGTAATG CGCAAGTCCT CTGGACGAAT       720

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AAAGGTGGCA ACAAAGTGGT TGATTGGCTC ATCGTAGATG TCCACAGGGG TTCCAGACTG       900

GACAATCTCG CCATCATTCA TAACGAAAAT CCAGTCACTC ATGGCAAGAG CTTCTTCCTG       960

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CTGCATGTCT GTTCTCAATT TCAAGTCCAG CGCTGATAAA GGCTCGTCCA ACAAGACCAC      1080

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GGTGTAGAAT TTCCCTTCTT CCAACTCAAA GTTGATGTCT TTGAGAACCT TGGTGTTGCT      1500

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ATTCCTTCTT TTTCATAGAT TAACCGATCG GGGCTCTGTC AGGTCCCCAC TACCTCTTGC      1620

AGGGAGTAAA ACCACCTGCA TACATCTTCG CTACCGATAG GCTTTCACCC AAGATCCGGA      1680
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930

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CTTCTCTTTC AAGCGTAATA CCTGAGTGTT CCTTGACTTT TTCGATAACC GATTGGATCA      1740

AGTCCTCGTA GTCTTTGGCC GTTCCATCTG CGACATTGAT CATAAATCCT GCATGCTTTT      1800

CTGACACTTC TACGCCACCG ATACGATAGC CTTTCAAGCC AGCTTCTGAA ATTAACTGAC      1860

CTGCAAAATG CCCGACTGGA CGCTTAAAGA CCGAGCCACA AGATGGGTAT TCCAAAGGTT      1920

GCTTGAGTTC ACGTAGGTGC GTCAAGCGGT CCATTTCCTG CTTGATAACC TGATGGGTTC      1980

CTGGAGCTAG GGCAAATTTA ACTGACAAGA CAACTGCACC AGACTCCTGA ATAGCTGAAT      2040

GACGGTAACC AAAAGCCAAG TCTTTAGCAG ACAGGGTTTC GATTTCTCCA TCCTTGGTCA      2100

AGACCTTACA AGACTGCAAG ATGTGAGCAA TCTCGCCACC ATAGGCACCC GCATTCATAA      2160

AGACAGCACC GCCAACGCTT CCTGGAATAC CACAAGCAAA CTCAAAGCCA GTTAAACTAT      2220

GACGGAGGGC AATGCGAGTT GTTTCAATCA AGTTAGCCCC AGCTTCTGCT TCAATGGTAT      2280

AGCCATCAAC AGAAACGTTA TTGAGCTTGT CACACAAGAT GACAAATCCA CGAATCCCAC      2340

CATCACGAAC GATGATATTG CTTGCATTGC CAAGAACCAT CCAAGGGATA TTTTCTTGGT      2400

TGGCAAATTT CACAACGCGA GCCAACTCAA AACGATTTCG TGGAAAGACC AAATAATCAG      2460

CCTCTCCACC TACTTTTGTA TAACTATAGC TATGCAAGGG TTCCTTAAAA CGGATATCAA      2520

TTCCTTCTAA GATTTCAAGC ATTTTTTCTC TTACAGACAT GTCACTCTTC CTTTTACAAA      2580

ATTCATTCCA TTATACCATT TTTAGAGACA TTTGACGACC ATAAAAATAC CTTGTTTGGA      2640

TTTTGCATAA GAAAAAGAGG TTCCCCCCTT TTTATGATTT TTTACAAAAG ATTTCCTTGG      2700

TTCCATAGGC GACCAGAACG AGCTCCAGTG CTAGAATCAC TTCAACCAAG ACTGGATTTG      2760

TCAACCAGCC TACTTGGAAA AGAGATGGTG CCAGATCAAA GAAGGCATGC AAGCCATAGG      2820

CTGCTAGGAG ATAAATCCAT TTCTTCTGGC GAACAGCTTG GTAAACCCAA ACTGTCAAAA      2880

GTAATTGGAA ACCAAGCGCC AAGATTCGCT CAAAACCAAG CAAATAAATC TGCCAGACCG      2940

AAAGTGACTG AATGGTTTTT AACATATTTT CAGACAGTAA TTGCATAACC TGTGGATTCT      3000

GAGTTTGAAC TGCCGAAAGA ACAATGTAAA GATTGAGTAA ACTAGTAAGG CCTAGAAAAA      3060

TCAACTCCAA GCCACCATGC CCC                                               3083
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(2) INFORMATION FOR SEQ ID NO: 139:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 15363 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear


    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 139:

931

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CCGGAGGATA TTGACCACCA CCAAAAGCAG GGGGAAAATC GAAATCAACC AATAGTAGGC        60

TACTGCGACA CTGGTCAACT CACTATCTGA TGCTTGATAA TAATGCAAAA AAGCTTTTAA       120

TAAAGGTTTG TCTATCAGCT CTTTCCACCA CTTTTTCATG TCATACTCCT TCACTTATAA       180

TCTTATACTC AATGAAAATC AAAGAGCAAA CTAGAAAGCT AGCCGCAAGC TGCTCAAAAC       240

ACTGTTTTGA GGTTGTAGAT AAGACTGACG AAGTCGATCA CATACATACG GTAAGGCGAC       300

GCTGACGTGG TTTGAAGAGA TTTTCGAAGA GTATTAACTA ATTTCTTCTT ACCAATTCCA       360

CCATATCATA CGGTAGGGTA TTGGCAGCTT CCTTCAAGGA ATAGTTCTCT AAGTTATTTA       420

CATTTTGTCG TAATTTCTTG GCATACTTAG TCGTAATCAA TCGTTTTTCT TCGTATTCGA       480

AAATCAACTT GCGCTCCAGA TAATAGCCTC TCAGCATTTC ATCGATATTG TTGGGTTTGA       540

CACGATTGAT AACCCGTTCG ACAAAGGCAC CACTGCTGAT AATAGCTGTT CTCGAAGAC       600

GAGACTCCTG CATAAAACTA ATCAAAGAGC GTCTGTAGAC TCCCTTCAGG TTTTCCAAAC       660

TTTCAATAAT CATCTCTGTA TTGGCAAGAT AGAGCTCTGC AATTTGGTCA TAATCAAGAG       720

CACGGAGACG GCTTTGCTCC TTGTTCTTCC AGCTACGGAA GGTCTTTCCG AGAGTAAAAA       780

CTTCATGAAG GAGAAAACGT AAAATCCTCA AGGAAACAAG AAAATAATAG GTCAGTCTTG       840

AGGCAAGTTT ACGATTGATT CCTTGTTCTA TATTTTTCAG ATAACGTTGG TAAACTCGGT       900

AAGCACGATT GCTAATGTTC CCCTCTTCAT AGGCCTGTTC CAAACCATCA CTTTCAATAC       960

TAAGAATCAA GAGTTTCAAA GCAGCCCAGT CTTCTTGATC ATCCTGGTTT TCTTGGCTTA      1020

AAATGAGATT TTCAATACGT CCATGATAAT TGTCAATAGC CGCATAGAGG GGAAGTTTAT      1080

TTCTGGTGTC TTCCAACTCT TTTTCCAACT CTAGCGTTAC TTCATTCAAA ATGGCGATAT      1140

GCATAAGATA ATCCTTGCTT TCTTCCTCTT CATCAGAAAG ATGAGGCAAG ACCAAGAGAC      1200

CTGTTAAAAA GCTAACAAGC GTCACACCTG CAACAAGGAA AAGCAAAAGA GGATACTCCT      1260

GTTCTAGATT ACTTGGTATC AAGAGAATCG TAGCAATCGA CACCGTTCCC TTAACACCTG      1320

AAAAGGTCAA GAGAAACATG TCCTTCATAT ACTTATTTAG CTTTTTCTTG AGGCGTCGGG      1380

TTCTATAGGC ATAATAGCCA TAGATCATAA TAAAACGAAT GACAAAAAGG ACAAAGGTAA      1440

GGGCGATAAG AGATAGCAAT AAAAGTAGAG GATTATAGAT TGGATTGGTC AAGATAGGTT      1500

CTGCTATCAT TTCCAACTCC ATCCCTAAAA TCACAAAGAC AGAACCGTTG AGCATAAAGG      1560

TCACTGTATG CCAGACCGTC TCGGTCACCG TATCCACTTG GGCTTCGAGG AGCGTGATTT      1620

TCTTGAAGCG ACTTGCCTTT AAAATTCCAG CAACTACGAC GGCAATAATA CCTGAAACAT      1680

GAACTTCTTC TGCCAGAAAG AAGGTCACTA GAGGCAAACT CAATTCTAAT AAAAGTTCAC      1740
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932

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TGGCAATATC CGTTGCGCGC ACACTTAGCA AGAAGGTATG GAGGAAGCGG TTGGTCATGG      1800

CTGTTAAAAA TCCAATTAAA AAACCGCCTA GGATTGAAAA GATGAGCGAA CTGCTAGCTT      1860

GCCCCAGAGA AAAAGCTCCA GTTGTCCAAG CTGTCAAAGC TACCTGAAAA GCCACCAAAC      1920

CAGAAGCATC ATTCAAGAGT CCTTCGCCCT TAAGAATATT GGACACGCGC TTAGGAAAGC      1980

TAAAACGCTC CGAAAGAGAG GCAAAGGCCA CCAAGTCCGT AGGACCAAGG GCTGCCCCAA      2040

CAGCCAAGCA AGCTGCCAAG GGAAGGCTGA ACCAAAGAAG ATGGGCCAAG CCACCCAAAC      2100

TCAGGGTCGA GATAAAAATC ACTGGAAATA TGAGATAAAC AATGATTCGC CAGTGTTTTA      2160

AAATAGCCGT AACATCTGCT TCTTCAGCCT CTCGGAAAAG CAAGGGTCCG ATAACCAGTG      2220

CCAAAAACAA CTCCGTATTA AGGTGAAAGT CAGTATTGGG TAAAAAGAGA CCAATCACAA      2280

TTCCCAAAAG AATTTGCACC AAAGGGAGAG GCAAAAAGGG CAGGAGCTTA TTGGTTGTAC      2340

TTGAGACAAT CAAAACCAGT AAAAATAGGA TGAGGTAAAT CAGTAATTCC ACGCACGTCC      2400

TCCTTAATCT TTTTTACAAC AGGATTCAAA TATCTCCTTC TGCTCTTTGA TTTTTTGGTC      2460

AATCTTGGAA CAGTCTTTGT GCTCAATTTT TCTCTGGCAC CGTTCCATTT CAAGAGCAAC      2520

TAATTTTTTC TTGATTTTAA GCATTTTTTT GCTCATATGC GCTTGGTCTA GCACGCCCAT      2580

CGCTCGTTCG TGGTGGGTTG ATTCAACAAA ATTCTGGCGC ATGGCATCCA GCTTTTCGTG      2640

TAAGTATTGT TTATCCATGT CTGTATCTCT CTAATTTTTC AATCATCACT AAAAACGGCG      2700

GGTTGTTGAC TTGGTTTAAA GTTCGGTAAA TGGCAGCTGT GTACTCTTGT TGGTTCAACT      2760

GGATCACAAA ATCCAAGACA GCATCTCTCT CGAGATCGCC TCCTTCATGA CCATAGTAAA      2820

TCATAATAGC AATTCGTCCA CCTTTGACAA GTAAGCCACA TAGCTTTTCT AATGCCTCAA      2880

TCGTTGTCTG CGGTCGGGTG ATGACAGACT TATCAGCTGC CGGCAAATAG CCCAGATTAA      2940

AAATCCCTGC CTTAGCTTTT ATCACAAACT GGTCCAGTGT CTCATGGCCT TGCAAGATTA      3000

ACTGGGCATT TGTCAAGTCA GCCTGATGCA AACGCTCTTG GGTCTTTTCC AAGGCTTGCT      3060

TCTGAATATC AAAGGCATAG ACTTGCTTGG CTAGCTTGGC TAAAAAAAGC GTGTCATGAC      3120

CATTTCCCAT AGTCGCATCC ACTACGACAT CCTCTTTTGT CACGACCTCA GCCAAAAAAT      3180

CATGTGCCAT CTCAAGTGGT CTTTTCATTT TCAAACTCCT GTTTTACAGC CTTGCATCCT      3240

TGAACACTTC CACGACGTCG CATCTCCATC TCAATGCTGT TGAGGACTTC CCATTTATTG      3300

AGGCTCCACA TAGGACCAAG CAGCATATCC CTAGGCGCAT CTCCTGTAAT TCGATGGATG      3360

ACGATATGTT TGGGAATAAT TTCCAGTTGG TCACAGATGA CCCTGACATA TTCGTCCTGA      3420

CTCATCAATT GTAAACGCCC CTCATGGTAA TCTCGTTGCA TACGAGTATT TGTCATAAGA      3480

TGGAGCAAAT GCAGTTTAAT CCCTTGAATA TCGTTATCCG TGACACAACG GCGGACATTT      3540
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933

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TCAACCATCA TCTCATGGGT TTCACCAGGC AAACCATTGA TCAAATGGGA AACAATCTCA      3600

ATTTTTGGAT ACTTTCTCAA ACGCTTGACC GTTTCCACCT ACAATTCATA AGAATGCGCA      3660

CGGTTAATCA GGTCAGAGGT TGCTTCATAA GTAGTTTGCA AGCCCAATTC AACCGTCACA      3720

TGCATGCACT CCGATAACTC AGCCAAATAT TCGATGGTTT CGTCTGGTAA ACAGTCTGGG      3780

CGCGTTCCAA TATTGATTCC TACCACACCT GGCTCATTGA TAGCCTGTTC ATAACGCTCT      3840

CGAATAACTT CCACCTTTTC ATGGGTGTTG GTAAAATTTT GAAAATAAAC CAGATACTTC      3900

CGAACATCCG GCCACTTGCG GTGCATAAAG TCAATTTCCT TATAAAATTG CTCACGGATA      3960

GGCGCATCCG GTGCCACAAT GGCATCTCCA GAACCAGAAA CCGTACAAAA AGTACAGCCC      4020

CCATGAGCCA CAGTCCCATC ACGATTGGGA CAATCAAATC CCGCATCAAT AGGGACTTTA      4080

AAAGTCTTTT CTCCAAAGAG TTTTCGATAA TAATCATTCA AGGTATTATA AGATTTCATG      4140

ACTTTCATTA TAACAAAAAT CACCCACAAT CTCAAAAGCC TGACTTTCCT ATAAATTCCT      4200

CTGTTTCTCG TTTCCATTAG CCTTTTTTTA TGATACAATA TGGGTATGAT TTTAATGAAA      4260

TTAGCATCTA TTTTATTATT GATACTGACC TTAGTCGTCT GCATTATCCT AACCAAACTT      4320

TTTAGATTAA AAAAACTAGG ACGAAACTTT GCGGATTTGG CTTTTCCAGT CTTGGTATTT      4380

GAGTATTACT TGATTACAGC TAAAACCTTT ACCCATAATT TCCTCCCTAG ACTGGGGCTA      4440

GCCCTCTCGA TCCTAGCCAT TATTCTCGTC TTTTTCTTCC TTTTGAAAAA ACGCAGCTTT      4500

TACTACCCTA AATTTATCAA ATTCTTCTGG CGTGCAGGAT TCTTATTAAC CCTTATCATG      4560

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TTTTTGGATG GTTACGATAG TCTTGGTAAA ATAGAATTGC CCAATAAACC ATTTAGAAAG      4800

GCTATCCCAT GCATATTCAC TATAACACAA ATCAAACAAC TTTACCACTA GAAATCAGTT      4860

CCTTCTTACC ACAAGATCAT CTCGTTTTTA CTATTGAAAA AGTGGTGAAT ACCTTGGAGG      4920

AACGTCACTT CTACACCTCC TATCATGCCT TTGATCGCCC GTCTTATCAC CCTAAAATGC      4980

TTGTATCTAC TCTTCTATTT GCCTATTCAC AAGGGATTTT CTCTGGTCGA AAAATTGAAA      5040

AATGGAAGAG TTAGTGACCT TAGATTGTTT GTTTATTGAC AGAACTAAGA TTGAAGCCAA      5100

TGCCAACAAG TATAGTTTTG TGTGGAAGAA AACGACAGAG AAATTCTCCG CCAAACTTCA      5160

AGAACAGATA CAGGTCTATT TTCAAGAAGA AATCACTCCC CTTCTGATTA AATATGCCAT      5220

GTTTGATAAG AAACAAAAGA GAGGGTATAA AGAGTCAGCT AAAAACTTAG CGAATTGGCA      5280
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934

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CTATAATGAC AAGGAGGATA GCTACACACA TCCTGATGGC TGGTATTATC GTTTTCACCA        5340

TACCAAATAT CAGAAAACAC AGACAGACTT TCAACAAGAA ATCAAGGTTT ACTACGCCGA        5400

CGAACCTGAA TCAGCCCCTC AAAAGGGACT GTATATGAAC GAACGCTATC AAAACTTGAA        5460

AGCTAAAGAA TGTCAGGCGC TTTTATCTCC CCAAGGTAGA CAGATTTTCG CTCAACGCAA        5520

GATTGATGTG GAACCTGTCT TTGGGCAGAT AAAGGCTTCT TTGGGTTACA AGAGATGTAA        5580

TCTGAGAGGG AAGCGTCAAG TGAGAATTGA CATGGGATTG GTACTTATGG CCAATAACCT        5640

CCTAAAATAT AGTAAAATGA AATAAGAACA GGACAAATCG ATAAGGACAA TCAAATCGAT        5700

TTCTAACAAT GTTTTAGAAG TAAAAGTGTA CTATTCTAGT TTCAATCTAC TATACAATAA        5760

GAGAATGACT CAAAATTAAA AAGCTAGAGT TCCACAATTG GAAATATCTA GCTTTTTTGT        5820

GGTTGAGAAC TATTTTGTCT CAGGCTCTTT ATCTTCTATT TAGGACAAGA GTTTTTCTTT        5880

GGTCTTTAAT GATAAAGAAG GTATCAAAAT TTCTAGTCTT CTTTTTTACC TTTAGTAACT        5940

ACTAATCCTG CACTCAAACC TAGAAGAGTT AAACCTGCTG CTACTGCTGC TTGGCTTGCC        6000

GCACTACCTG TACTTGGTAA CTGGGCTTTA TTAGTTTGAC TAGCTTCACT TGAATCAATT        6060

GGTTTTGTAT CTGCTTTTTC TGACACTTGT GGTTTTTTAG CTTCTTGAGC TACTGGTTTG        6120

GTTCCAACCA AGACGATGCG GTCTGTCGGA ACTTCTACCA CTTCACGGAG TTTTTCTTCC        6180

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TGAGTGCTTT CTTGAGGCAA TTCACTTGGT GCAAGGAAGG TCATCTCAAT CATCGCAACA        6660

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TTACCATTTT CACGGAAAAT CACACCCGCT GATACTTCTG GATTAGAAGA TGGTGTTGGT        7020

GACCAGTTTG TCCAACGACG ATTTTCTGAA TGATCTCCGT CATTGAGATA GTCAACGCGG        7080
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935

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TCATGAGAGT TTTTGTCAAT ATCATTGGTT GCTGAAGCAA AGGCCTGGTT ACTGTTTTCA     7140

TCATAGTTAG GGTTATCTGA AAGAGTCTCA CCAAGTTTGT CTGTCACTCG TACAGTGATC     7200

TCAGCAACAA GGTTACTACC AAGGACACGG CCTCGAACAG TAAATTGACC TGCTTTTGTC     7260

AGATTTTCCG CTGGAACTTC TTCCCATTCA ACTGTCAGGT CTTTTGTTTC GTAGCCGTCT     7320

TTACCTGTGA AGTAAACTGG AACCTTAGTC GGCAATTCAA GTGCTTGACC TACTTGTAGC     7380

AAGCGAGCTT GTTTAACCGC AGCAACTGGT TTATGAGAAA GTAAGCTCTT ATCCTTAGTG     7440

AAGTGCAGAC GGTATTCTCC TAAGATGTCG CCATTTTCAG CTTTCGCGAT GACACGAACT     7500

GGCTCACCTT CACGAACGCT TGGAACGACG GTAGCGAGAC CATTGTTGCT AACACTTGCT     7560

GTGACTGCCG GAACTTTTCC ATCTACAGAC TCAAGGTAGT AGTCTGTCAA ATCAGGGTTG     7620

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CCAGCCTTGA GTTGAGCAGG GGCTTTTAGA TTAGTAACTG GTTTCCAGTT GGCAGAATCA     7860

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ACACCGACTG AAGCTTCTGG ATTAGTACGA TTCCAGTTTG TCCAACGATT GGCTGGTTGG     8100

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TCAGTTTGAG CAGATACGCG AACATGAAGT TTAGTTGTTA ATTGCGTACC TTCTAAGCGA     8280

CCATTAACTG TAAAGACACC TTCCTTAGCG TATTGCTCTG GACGAATCGC ATCCCATGCA     8340

ACCTTAGCTG ATGAAACGTG ACCATTTGAA TCATATGTCC GAACACTTTC TGGTAATTGT     8400

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TGATAGGAGT CTAGTTTTTC TTTCGGAATA GCTTGCCAAG TGACTTTATG AGTTTTAGGG     8580

AAACCTTTGT CATACTCAAC TGTTACTGTT GCTGGAAGAC TTGGTTCCTG ATGCAAATCT     8640

GTCACTACAT TTACAGGACG GATGGATTGC GCAATCTTCT TCTCAGTATT GGCTTGGATA     8700

GTGAGTTCAA CTTGGTCTTT AGCTCCCTCA TATTCAGCGT TCAGAGTGAC TGCTCCTGGC     8760

TTATGCAACT CAAGCATTCC TTTACGAATT GCGACTTCCC CTTCACCACT TGTAGAGAAG     8820
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936

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GTTACTTTAT CAGCTGGTAA TACAGCTTGC GTTCCATCTT GATAGTGAGC TCGAACCGAC   8880

AATTTGACAG TTTGGTCTTC TTTGAGACTG TCAGCTTTTT CCACTTGCAA GCTCAAGTGA   8940

GCAATTTTTG GCGCTTCTTC AAGGAATTGA ATTGCATAGG TTTGAAGAGG GCCACCATCT   9000

TTAGGCTGAA TAAAGATGCT CGCACGCATG CCGTTTGCTG CGCTTGCTTG AAGAACTGTA   9060

ACAGCTGCAT TTTTAGCACT TGCTGTGACT TCTGGCAACT TAGCTCCATA AGCAAGAGTG   9120

CGGTATTGCA TTGGTTTTTG ACTAGTAAGA CCTGTTACTG CCTCACCACC AACCGTTACA   9180

GTTGGTACTG CAGGTGCCGC AGGATTGCCT TCTTCTACCA CAAGGGTTGC ATGAATTGGT   9240

TGACCTTCTA AATAACCGGT CGCTTGAATA CGAGAACCTG GAATTGCTAA CTTAGCTTTA   9300

TCTTCTTCGG CAATCTCCCA CTTGTCCACT TCATACTCTT CAACACTTCC ATCAATCAAA   9360

ACATAGGAAA CAGATTTGTC TACAGAATTC AAGTCAGTAT TTGGAGCAAT ACGTTTCACA   9420

ACTGGTAGCT CTGATTTAAG AGCAATCACT TCTACACGAG CTTCTACTTC TCGTCCGTCA   9480

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TGATTTTGGT TGTGCCATGG TGTAGGTTCA CCAATATAGT CCGTACCTGT CCAGATAAAC  10500

TGTCCAGCAT AGCCAGCGTT GTCACGGTCA AAAGTCCATG AAGCGGTTGC TGTTTTCCCC  10560

CAACCCACAC GATCATTTCC ATAATCTGAC TGTTCATAAT TACGCTCAGG TCCATTGCTA  10620
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937

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TGTTTCAATT CACGTTCAGG GCGATAGTAA CTTCCACGTG TACGGGTAGC TGAAGATGTT    10680

TCTGATCCAT AAATCAACCA TTTTGGATGC TTAGCTCTAA GGGCTTTGTA ATTATCTTCA    10740

GAATAGTTAA ATCCAACAGC ATCGAGTTCA TCAGCAATTT TCTCATGCCC TCCGCTACCA    10800

TTACCGAAAC GGAATTTATC TGCTCCCATG GTAACATAGC GAGTCTTATC AACATCCTTG    10860

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ATTTCATTAC CAATTGACCA CATGAAGATA GCAGGGTTGT TTTTGCCTCT TTCGACCATG    10980

GTACGTAGGT CAAAATCAGA CCATTTTTCA CCTTTTCGAG CTTCTGGGTG AGTGGCATCT    11040

TTTTCAAAGA AACGTCCATA GTCATAAGGT TTCTTGCCAC CATACCACGT ATCAAAGGCC    11100

TCTTCCTGAA CGAGTAAACC TAGTTCTGCT GCGATTTGCA AGGTTTGCTC ACTAGCAGGG    11160

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CGGTAACCAA ACAAATCCTT CTTAGCATCA ACCAATTGAC CGTCACGGTA AACACGCGTA    11400

ATCAATTCGT ACAAGGCAGG TTTGTCATTT AAAACAGTCC AGAGTTTTGG TCTTTCAACT    11460

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GGTAAATCTA ATTTTTTCCA CGTAGATACG TCTGCATCAG GTTTAATGGC TTCCTTAGAA    12120

TTTGCATTGA GTTTAAAGTA CCAATTTTGA TTAAAATCCA CTTTCCTGTC TTCAATCATT    12180

TGATTCACTT CTTCATTTGT TACAGCTTTA GCATCTTCCT TGAGCGGTTT TTCTTGATTT    12240

GAAGCTTGTG ATTCTATCCT TGGAGCTTTT TCTTCCGGTT TAGCAGACAC TTTTTCCTCT    12300

TTTGGAGTTA CGGCTTCATC TTCTTTCTTC TCAGATGCAA TAGCCTCAGT TGAACTAGGT    12360
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938

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TCACTTTGTT CTGTCCTTTC AACTATATTT TTAGTTTCCA AAGCTTTATC AGCCTTTTCT    12420

TCTACTATCA TTTTTTCCTC TTTAGGTTTC TCAGCAGTAT GAGTAATAAG TGTTTCATCC    12480

GCATAAACTA CAGATTCTCC AGCTATATTT CCTCCTAATA AAACTGCACA AGTCCCAATC    12540

ATTACTGAGC AAGCTCCCAC AGCAAACTTA CGAATGCTAT AAACTCTTTT CCGATTCCAA    12600

TGGCCTTTCC CCATAAAACC CTCCTTATAT TATATTTAGT GCAGTTAGCT ACTACCAAAG    12660

CCCAAGTGGT ATACATGGTA TGACAACCTA GTTTCAACAA TTTACACTCT GCGAAAATCC    12720

AATTCAAACT TCGTCAGTGT CGCCTTGCCG TAGATATGAT TACTGACTTC GTCAGTTTCA    12780

TCTACAACCT CAAAACCATG TTTTGAGCTG ACTTCGTCAG TTTCATCTAC AACCTCAAAA    12840

CCATGTTTTG AGCTGACTTC GTCAGTTTCA TCTACAACCT CAAAACCATG TTTTGAGCTG    12900

ACTTCGTCAG TCTTATCTAC AACCTCAAAA CTGTGTTTTG AGCAACCTGC GGCTAGCTTC    12960

CTAGTTTGCT CTTTGATTTT CATTGAGTTT ATATTTTATA GGAGCGCATT ATTTTGCTTT    13020

TGCTGCGTAC TCTTCGTTAC GTTTGATCAT TTGTTTTCTG TACCAAGCAA AGATACCGAT    13080

ATAGAATACA AGGAAGACTA CTGCACCAAG GATTGCTTTG ATATCACCAG TTGTAGTGTT    13140

ACCAATTGTC CAACCAAGAA GTTTTTCGAT TGGTCCTTCA AGAGTAGAGT GAGTAATCAA    13200

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GATACCTGCA AGTGGCAAGA TACCATTTCC AACTTTTGAA AGAAGCACTG CTTCAATCAA    13440

CATGATTGGT GCAAGTACGT TGGCACAAGC CCAGATTTCA GCACGACCAG CGATGAATGG    13500

CCAGTCAAGA CCGATATTGA ATTTACGTCC TTGAAGACGT TTAGTAGCAA CGTTTGTAAT    13560

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CAAAGATACA CCGGCAGTCA AACCAAGAGA CAACCATCCT TTGATAACAA GACGCCATTT    13680

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AAGGATGAAA CCGATGAAGA ATTTAGATCC CCAGAAACCG ATTTTCTTGT TCAATTTAGC    13800

AGCATCAAAG TCATATTTAT CAAGGCCTGG GAAGAATTTT TCAAAAATCT TATCCAAAAC    13860

CATGATAACT GGGTTCATCA TGTAGTTCAT GTGAGTTGAT GTCATTGGTG ATGAACTTGG    13920

GGCGTTAAGA AGGTCATCAA ATGTAGGTTT CATCAAGTCA GAGTTGATAA TTTTCAACAC    13980

ACCGACAAGG ACGATAGCTG CTGTAGCAAT AAAGAGTGAA ACCCCTTGAC TCACACCATT    14040

GTTATCAGCA TACCATTTAA TCAAGAGACC TGTGATAGAC AAGTGCCAGA TATCAAAGAT    14100

ATCGACATCA AGTGTATCTG TTTTCTTCAT AGCTAGCATC ACTATGTTGA CAATCAACAT    14160
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939

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GATGAGCAAG AAGTATAGTG TCCAAGCAGA ACCCCAAGTG ATTGTAGCAA GTGGTGCCCA    14220

ACCAACGTCG GTAATACTCA ATTGGATACC AGTGTTTTCA ACGAATTTTG CTAGTGATGC    14280

TGAGAAAGCA GTGTTTAGCA TACCGATGAT AGCACCGATA CCTGTAAGAG CGATGGCAAG    14340

TTTGATACCA CCTTCAAGCG CTTTGGAGAA TTTCACTCCA AAAAGTAAAG CCAATACTGT    14400

CAAAATGATT AACATGATGA CAGGTCCACC CATTTCTAAG ATGGGATTGA AAACCTTTCC    14460

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TCTTCGTTTA CATCTTTCAC CATGACTGCA TCACAGTGAA CATCATAACC ACGGTTTGAA    14760

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GCAAGAATTT TAATCATTTA GATTTCCTCC GATTTTATTT TTTAATAGAC AAGATTAAGC    14880

GGTTGCTTCA GCAATGTAAG TATAAAGGGC TTCTGGTTCA GAAATTTTTG ATAGGTCTTC    14940

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CATATTGTGA AAAGTTATTG GTTTTTCTAA TCGAACAACC ACCACTTTCT CAGCTAGATT    15120

ATGAACAATA TCTGTGTGAG GAATCGCTAC ATTTGGCAAG TCCTTTCCTA GAAATTCCAT    15180

ATCTAAACCA GTTGGAAATG ACTTTTCACG CGTGATCAAG GCTTCACGAT AAGTTGGAGT    15240

GACAATTTCT CGTTCTTCCA ATAAAGTTGC AACCTGATCA AAGAGTTGTT CTTGACTATC    15300

CGCTTCTAAG CAAAACACAA GGTTTTTGTC AAAGAAATAA TCTAATACCA TAAGTTTTTC    15360

CGG                                                                   15363
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(2) INFORMATION FOR SEQ ID NO: 140:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 28882 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 140:

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TAAGACTATT TAATAGTGGA GTGAAATAGG ATACGAACAA ATTGATTAGG AAAATCAAAT      60

GAATTTATAG AAATCTTTTA GCAGTTATGT TATCCTATTC TAGTTTCAAA ACGCTATAGA     120
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940

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AGCAGCATTG TGCTAGTCkA GATTCAGTTT ACTATACTAA AACGAGTAGC TTGAAATCAA        180

AAAACCCACC CTCACAGGCA GGTTTTATCT GTATTATTCA GCTAGATTAT GCTTTACCTT        240

CTGAACCGAA TACGTCGATA CGTTCTTCAA CCGATGCTTG GATAGCTTTT ACACCGTCAG        300

CCAAGAATTT ACGTGGGTCG AAGAGTTTTT TCTTGTCGTA TTCTGCTTCG TTTGCTTCGT        360

AGTCACGAGC AAATTTACGA GTTGCGTTAG CGAATGCGAT TTGGCATTCT GTGTTAACGT        420

TAACTTTGGC AACACCAAGT TTGATAGCTG CTTGGATTTG CTCATCAGGA ATACCTGATC        480

CACCGTGCAA TACGATTGGG AATCCTGGAA GAGCTTCTGT CAATTTTTGC AAGTGGTCAA        540

GGTCAAGACC TTCCCAGTTT ACTGGGTAAG GACCGTGGAT GTTACCGATA CCAGCTGCCA        600

AGAAGTCGAT ACCAGTTTCA ACCATTGCTT TAGCGTCTTC GATTGGAGCC AATTCACCTT        660

TACCGATGAT TCCATCTTCT TCACCACCGA TAGTACCAAC TTCAGCTTCT ACTGAGATAC        720

CTTTAGCGTG TGCTTTTTCA ACAACTTCTT TAGCCAATTT AAGGTTTTCT TCAACTGGAA        780

GGTGTGAACC GTCAAACATG ATTGAAGTAT AACCAACTTC GATACACTCA AGTGCATCTT       ·840

CGTAGTGACC GTGGTCAAGG TGGATAGCTA CTGGTACAGT GATACCCATT GATTCAACAA        900

GGTTAGCGAT CAAGTTGCGA GCAACTTTGT AACCACCCAT GTATTTAGCA GCACCCATTG        960

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ACTCAAGGTT GTTTGTGTTA AATCCACCAA CTGCATAACC GTTGTCACGG GCTGCTTGGA       1080

CAAATTTTTC TGCTGAAACG ATTGCCATTT TATCAGGCCT CCTGTATATT TTTATGGGTC       1140

ATCCCATTTA CATTGTTCAT TTTATCACTT TTTGCCAAAA AAATCTAGTT TTTCCCGCAG       1200

TTTCGATTGA TTTTCTTCTA ACTCCATCTA TGTAAACCCT TTCTCTCCCT AGTCTTGGAC       1260

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GCTATTTTCG ATAAAAAGTT CTCCTTCTCT TTCTCCAATT CGAACTAAGC CACCTGGAAC       1500

AGAGTGCTTA ATGGCATTGC TGATGAGATT AGAAAGAATC AACTTCATAA CTGATGGGTT       1560

TAGATAAGCC TGCTGATGGG TCAAACTATT GTCTATCTGG AGCTCTCTTT CCTTGGCTAG       1620

CAAGGCATAA TCTTTGACCA GATTTTGCGT CATCTGGAGG AGGTCAATTG TTTCCCTATC       1680

ATCTCGCAAT TCCTGCACAG AAGAGAGGGA AAGTATCTGC AGAACATGGT GATTGAGTTC       1740

ATCCACAATC CCCAAGGCAA CTCCCAGATA CTGGTCTCTA TCCTTATAAC GACCGATATT       1800

CTCTCTCATA TTTTCGATTA GGATTTTCAA ACTAGCCAGC GGTGTTTTCA ATTCATGAGA       1860

AGCTCCTCGT AGGAATTCGA CCTTCATCTT CTCCAGCTGG AGAATGGCTT CATTCTTTTC       1920
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941

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ATGCAAGTCC GCAATAACAG TCAAGAGATG CTGGTAGAGG CTATTGATTT GTTCCTTGAG     1980

ATTACCTATC TCATCCTTAG AATCCACGCG CAATCGCACT TGGGAATCCA GGTCCATCAT     2040

CCGACGGGTC ACCCGCTTGA TTTCCAAAAT CGGTGCAACA ATAGTCCGAG CGTAGATGTA     2100

GGCCACCAAA AGGGAAATCA GAAAGGAGGC CAGCAAGGTA TAGGGAAGAA ACTGGAGACT     2160

GATTTGCTCC GCTTCCTTTT GTAAATCCAT GGAAGCTAGA AACTGGAGAA TCATAGTACC     2220

ACCGTCTTGC GTTTTCACCT CGCGCTCCTC AATAAAGAGA GAGGTTGTCT GGCGGTCTGT     2280

GTCCAGAGGA AGACTGTCCT TGACTTCTAA CTTGTCCTCG GTCATCTCAC CTTTGACGGT     2340

CCCCTTGATA TCACTAGTCT GGGAATACAA GTCTAACACT TGCTCGATAC TCTGCCTATC     2400

TTTCCCTTCT AGGGACTGGG CAATGGCTGT TGCCTTTTGA CCAATGGTTT CCTGACGATG     2460

ACTCAGATAA GTCGAAGGAA AAAGAAAATA AATAGCTAAA TGAAGGCAGA TAACCAGAAC     2520

ACTAAATATC GAGAAGGTAT AGATAAATAT CTTTGCAAAT AAACCTGTTC GTTTCATTTT     2580

CGCTCCAATT TATAACCAAC ATTGCGCACA GTGAGGATAC AATCCAAGTC TAGCTTTTTC     2640

CGCAATTCCT TGATATAAAC ATCAATAACA CGGTCAAAGG GAACCTCATC TGTCGCTTTC     2700

CAGACGGCAT CGATAATCTG AGATCGAGTC AAGGCCCGGC CTTCATTTTT CACTAGATAG     2760

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TCCACTATTC TTGAATAGAA ACACAAGATG CAATCTTTAT TCTAGACTCA TTTTTTCAAA     3540

TTTATTCACC ATCCAGCAAG AGCTCTTTTG GTTGTTTTCT AAGGAGATTG CTTGAAGCAA     3600

GCGCCATAAC GAGAACCACT AGAACCAAGG CAAGGACAAA AATGATGATA AAGTCTGATG     3660
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942

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TGGCAAGGAC AGTGTTTCCA ATTGCACGGG CAGTGTAATT AGCTAGGAAG TAAGCAGAAA    3840

CTAGAGCAGG GATAGCAATC AAGATAGATT CGGTGATGAA TTGACCCAAG ATACTTGCCT    3900

GCTTGAGGCC GATAGAGAGG AGAATTCCCA CTTCCTTGCG ACGGGCGTTG ATCCAAAGGC    3960

TGAGCAAGAG GGCAAGGAGG AGAACTGAGA AGCTCAAGCT ACCCCAGAAG AGGAGGTTGG    4020

CCATCTTGTA CATACCAGAG ATAGATTGCT CAAGAGCTGG GTAGTTAGAG GAGCTCTTGA    4080

CGAGTGTGTA GCTCTTCCAG TTGATACCAC TGATGCCATT CAACTCTTTC ATAACATCAT    4140

CCAAGTTCTT GTCTGCTGTT ACAAAGAAGG TTGCGTCCCC ATAAATGGCT GTGTCTTCTG    4200

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AATCTATCAA GTTATAATTT TGAAAGACCA GGGAAATATG GTGCATGCGA TGGTAAGAAT    5400

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943

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AAAATTTTCC GGGTTCAAAA TTATAATTGA TCTGATATAG GACTGCTTCA GCAGTATTCT      5580

TATAACGGTA GGTAACATCT TGTAATTGTA ATAAAGTCAT GATTTCTCCT TCTTAACTAA      5640

TAGATGATAA AATTTCTTTC GGTGATTTTC TAAATAAGAA TAGGAAACAA AGGGCTACAG      5700

ATAAGCAACT AAGCAGAACT AGAAAAACAT AGGATTCTGC AAAAGATAAG ATGCTAGTTG      5760

ATAAACTGCT TGCTTTGGCT AGTGTATCTT GTAAGCTTGC CTGATCTCCA CTTGCTAGTA      5820

GAGTTTGGAG TAGGTAAGTT GTGATTGCGT TTCCTGCAAC AAATGCTGGA AGCAAAGCTC      5880

CAAGAGATAC CAAAACTACC TCTAAACAGA ATTGTAGGAA GATCGAGCTC TTGCCTTTTC      5940

CAAGTGCAAG TAAAATCCCC ACTTCATAGA CCCGTTCTCT CAACCAGAGA GACAAAACCA      6000

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CATACGTGCC GTTCGGCATA CGGCGGTTCA ACTAACTTTT AACGCATGTC GTTCAAGGTA      7080

ATAATCCAAA CACGAAACCA GTCCACGTTT TTCAAGGACT GGTTTTGATA TAGCACGTTT      7140

AAGTACCGAC TTCTGAGCTA CTATAGTAGA TTGAAACTAG AATAGTACAC CTCTACTTCT      7200
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944

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AAAATATTGT TAGAAATCGA TTTGACTGTC CTGAACAATT CGTCCTATTC TTATTTCATT      7260

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CCCTAACTTA AGCAATCCCC ATAATCGTCT CGATTTCTTC TTCCATTGCT TCCAGATAAT      7380

CACTCGTAGG CGAGTACGCA AGCGCTCATC TATGCTAGTG ACTATACTTT TCATATTTAT      7440

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945

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CACGCTCGCT GAGCCCAGCT TCCTCCAGCA AAATCCACTG CTGAGAAGCT AAAGGGAGCG      9120

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GCCGTCACAT CCTCACGAAA GGCAGCGATG TACTTATCCG CAACCTCCTG AGGCGTGATA      10680

CCTTCTTCCC TGGCACGGTT GATAATCTTA TCATCCACAT CTGTAAAATT GGAAATATAG      10740
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946

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CGGGCGTTTC CTACGTGGAT ATAGTTGTAC ACCGTTGGCC CACAAACATA CATCTTGATC    10860

TTGCCGTCCT CAATCGGGAC AAATTCTCGC AAATCACGAG ACATGGTGTC ATAGATTTTA    10920

ATCATAAATC ATAATCAGGA AAGCTGAAAT CCAAGAACAA TTAGTTTCAT CACTAAAAGT    10980

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955

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956

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AAGTCTTCAT CATCATCGTC GG                                              28882
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(2) INFORMATION FOR SEQ ID NO: 141:

        (i) SEQUENCE CHARACTERISTICS:
             (A) LENGTH: 12835 base pairs
             (B) TYPE: nucleic acid
             (C) STRANDEDNESS: double
             (D) TOPOLOGY: linear


        (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 141:

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ACTTGCGGCT AGTTTCCTAG TTTGCTCTTT GATTTTCATT GAGTATTATA TTACTTTCTA      240

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TCTTTTTTGA TATTCATGCG CCCGATCTAG CTAAATTCGA TGGACAAGCA ATTAAAAATG      420

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CATTTATTAT TCCAATCATC ATTGTTTTGC TAGGTTTTCA ATATATTGAG CTGAAAAATA      540

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CTTTGCAAGT TGCAAGTATC CCTTGTTTGA TATATTTAGT GACTGTGCTG ATAATTGCAA      660

TTATAACCTA TTTCTTTGGG ACTTTTTCTC CTCTTGGATG GAATTCTCTA TTTTCTGATG      720

GAAGTGGTTT ACAAAGACTC CTAGATGGAG AGATAAAAAG CTATTTGTTC TTTACTTGTG      780

TCCTACTAAT CGGTATTTTC ATCAATGCAA TCTATTTTTT ACAAATAGTT GATTATGTGG      840

GGAATGTGAC TCGTTCGGCA ATCACCTATT TGATGTTTCT TTGGCTTGGT TCTATGCTGC      900

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TGAGTCACAA TTCTACCTAT CTCTTGAAGA TGATTTGATG AAACGTTTTG GTTCTGAACG    4440

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961

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962

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TTCCTTGAAA GCTGCAGAAA AGAGAGAAGT CTTGGAGACC ATTGCCAAGG GTGAGGCTGA     10020

TTTGATTATA GGAACTCACG CTCTGATACA AGATGGGGTG GAGTATGCTC GTCTTGGTTT     10080

GATTATTATC GATGAGCAGC ACCGTTTTGG TGTAGGGCAA AGGCGTATTT TACGGGAAAA     10140

AGGTGACAAT CCAGATGTCC TCATGATGAC GGCGACTCCC ATTCCACGGA CGCTTGCCAT     10200

CACAGCCTTT GGAGATATGG ATGTTTCCAT TATCGACCAG ATGCCAGCAG GTCGGAAGCC     10260

TATTGTGACG CGCTGGATCA AACATGAGCA ACTACCTCAG GTCTTGACTT GGTTAGAGGG     10320

GGAAATTCAA AAAGGTTCCC AAGTCTATGT CATCTCTCCT TTGATTGAAG AATCAGAAGC     10380

TCTAGATTTG AAAAATGCCA TTGCCTTATC AGAGGAGTTG ACGACTCATT TTGCAGGCAA     10440

GGCAGAGGTG GCTCTTCTAC ATGGTAGGAT GAAGAGTGAC GAAAAAGACC AGATCATGCA     10500

GGATTTCAAG GAGAGAAAGA CGGATATTCT GGTTTCGACG ACGGTTATTG AGGTTGGGGT     10560

CAACGTTCCC AATGCGACTG TCATGATTAT CATGGATGCC GATCGCTTCG GTCTCAGTCA     10620

ACTTCACCAG CTTAGAGGTC GTGTCGGTCG GGGGGACAAG CAGTCCTACG CTGTTCTCGT     10680

TGCTAATCCC AAGACGGATT CTGGGAAAGA CCGCATGCGT ATCATGACAG AAACGACCAA     10740

TGGATTTGTC CTTGCGGAGG AAGATTTGAA AATGCGTGGT TCTGGTGAGA TTTTTGGAAC     10800

CAGACAGTCA GGACTTCCAG AGTTCCAAGT GGCTGATATT ATCGAAGATT TTCCGATTTT     10860

AGAAGAAGCA AGAAAGGTTG CTAGCTACAT TAGTTCTATA GAAGCTTGGC AAGAAGATCC     10920

AGAGTGGCGC ATGATTGCCC TTCATCTGGA AAAGAAAGAA CATCTGGATT AAGCTTTCTC     10980

TAAGGAAAAC TTATACTCAA TGAAAATCAA AGAGCAAACT AGGAAGCTAA CCGCAGGTTG     11040

CTCAAAACAC TGTTTTGAGG TTGTGGATGA AACTGACGAA GTCAGCTCAA AACACCGTTT     11100

TGAGGTGGCA GATAGAACTG ACGAAGTCAG TAACATATAT ATACGGTAAG GCGACGCTGA     11160

CGTGGTTTGA AGAGATTTTC GAAGAGTATT AAGCTAGTTT TTAGGTTTGG CTCTTATACT     11220

AGAGTCATCA AAAAGAAACG AGGACTCTCA TATGACAGTA ACGATTAAAG TAAATTACCA     11280

AACCACTTTC CAAAAGAAGG AAGCAAAAAA CTAGTATAAA CAGAAGAGAG AGCGAAATGC     11340

TCTTTTTTCG TTTCTAAAAC TACTTTCAGC CCATCATCCT AAAAGTAAAG AATCTAAATT     11400

CACTTTCTAT TTACCCTTCT TTCTTGCATT GATTACATAG ATATGCTACA GTTGTGGTAA     11460

CGATTACAAA ATAAAAGGAG CATGCTATGA AAAATCCAGC TTTGCTAGAA GAAATTAAGA     11520

CCTATAGAGG AAGGGATGAG GTTCCGGAAG ACTTTGATGA TTTCTGGGAT GGGGAAGTGA     11580
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963

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AAAATGTTTC CACGCTTCCA TCCTACCACT TGGAGGAAAG AGATTTCCAC ATTCCTCAAG      11640

TCAAGTGCTA TGAGTTAACA TTTGAAGGAA GCAAGGAAGG AAAGGTCTAT GCACGCATTG      11700

TTCTTCCAAA GAGTGAGGAG AAGGTCCCAT TAATCTTCCA TTTTCATGGT TATATGGGAC      11760

GTGGCTGGGA CTGGGCCGAC ATGCTGGGCT TCACCGTAGC TGGTTACGGT GTTGTTTCCA      11820

TGGATGTGCG GGGCCAGTCA GGTTACTCAC AAGACGGCTT GCGTTCTCCT TTAGGAAATA      11880

CCGTGAAGGG GCATATTATC CGTGGTGCTG TGGAAGGTCG GGACCACCTC TTTTATAAGG      11940

ATGTTTATCT GGATATTTAC CAGTTGGTCG AAATTGTTGC TAGTCTGTCT CAGGTTGATG      12000

AGAAGCGTCT TTCTAGCTAT GGTGCCTCAC AAGGAGGGGC TCTAGCTCTA GTTGCAGCAG      12060

CGCTCAATCC TCGAATTCAG AAAACAGTTG CCATTTATCC CTTCTTGTCA GACTTCAGAC      12120

GGGTGATTGA GATTGGTAAT ACTAGCGAGG CTTACGACGA ACTTTTCCGT TATTTCAAGT      12180

TTCACGACCC CTTCCATGAA ACAGAGGAGG AAATCATGGC GACCCTTGCC TATATCGATG      12240

TCAAAAATCT TGCCCATCGT ATCCAAGGTG AGGTTAAGAT GATTACGGGC TTGGACGACG      12300

ATGTTTGCTA TCCCATTACC CAGTTTGCGA TTTATAATCG TCTGACCTGC GATAAAACCT      12360

ATCGCATCAT GCCTGAGTAT GCTCACGAAG CCATGAATGT ATTTGTCAAT GACCAAGTCT      12420

ACAACTGGCT CTGTGGAAGT GAGATTCCTT TTAAATATCT AAAATAAGGA GTCGACTCTA      12480

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CTATGCGTTT TATCATGGAA ATATAGTAAA ATGAAATAAG AACAGGACAA ATCGATCAGG      12600

ACAGTCAAAT CGATTTCTAA CAATGTTTTA GAAACAAATG TGTACTATTC TAGTGTCAAT      12660

CTATTATATT TATAGAATTT TTTGTTGCTA GATTTGTCAA ATTGCTTAAA ATAATTTTTT      12720

TCAGAAAGCA AAAGCCGATA CCTATCGAGT AGGGTAGTTC TTGCTATCGT CAGGCTTGTC      12780

TGTAGGTGTT AATACTTTTC AAAAATCTCT TCAAACCACG TCAGCTTCGC CTTGC          12835
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(2) INFORMATION FOR SEQ ID NO: 142:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 5020 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear


    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 142:

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GGGGATATGA AGAACAAAAG AATATTTAAA GACTTCCAAG CTTCAAAAAT GAGTTTAAAC        60

ATTTACACAA GCCCCTTGTT AGCCTTTGTT TTTGTCTTCA TAGGAGAGTT TGTGGCTTTT       120
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964

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ACTTTGTATG GTATTGGCTT GTTAGCTCTC ATCGGACTTG CTAGAAATTT TGGAGAGGCT        180

GGTCAAAATC TTGCAAGCTA CTTGCAGACC TTGCATCAGA GCTTGACGGA TAAAACAAGT        240

GACTTTCGTT TAATTTTAGG ATTACTGGCC TTTGGTTATT CTTAACACTG TGTTCAGATG        300

GACAAGAAAA GTTGAGAAAA GACCTATTCG AACCTTGGGA TTTTATAGAG AGAATTTCCT        360

CAGCAATCTT CTGAAAGGAT TTAGTCTAGG CCTGGCACTT TTTCTTCTGA CCTTGTTAGG        420

TTTAGTGGTC TTAGGTCAAT ATCGTTTGGA ATCCATTCAC TTGAATCCTT ATTCTCTTGC        480

CTTTGTCGTC TTTACTATCC CATTTTGGAT TTTACAGGGG ACAGCAGAAG AAGTGGTGGC        540

CCGTGCTTGG CTACTTCCTC AATTGGCCTC AAGAACCAAT CTAAAACTAG CTATTCTTAT        600

ATCTAGCCTG TTCTTTACCC TGCTTCATAT GGGCAATTCT GGTCTCACCC CTCTATCTCT        660

AGTAAATCTC TTTTTATTCG GAGTTGCCAT GGCTCTTTAC CTTCTCAAAA CTGATACAGT        720

TTGGGGTGTT GCAGGTATTC ATGGTGCTTG GAATTTTGCT CAGGGTAATC TCTTTGGGAT        780

TTTAGTTAGT GGTCAACCGT CAGaACGTCT CTGATGACCT TTTTACCACA AGGCAATCAA        840

GATTGGCTAT CAGGTGGTTC TTTTGGCATA GAAGGTTCCA TTATGACAAG TCTGGTATTA        900

CTACTGCTGA TTGTCTATCT TGCTAATAAA TTAAAGAAAG AAAATGAAAG GATGTGACTT        960

CGGTCCGTCC TTTTCTTCGT GAAAATACTA TAAGTATGCT AAAATAGGAA TAGCACATGG       1020

AGAGAGGATT CTTATGATCA ATCACATTAC AGATAATCAA TTTAAACTAG TATCAAAATA       1080

TCAACCATCA GGAGATCAAC CCCAAGCTAT CGAGCAGTTG GTGGATAACA TTGAGGGGGG       1140

AGAAAAAGCT CAGATTCTGA TGGGGGCGAC TGGAACAGGG AAGACCTATA CTATGAGTCA       1200

GGTCATTTCT AAAGTCAATA AACCAACTCT GGTTATTGCC CACAATAAAA CTCTGGCTGG       1260

TCAGCTCTAT GGGGAGTTTA AGGAATTTTT CCCTGAAAAT GCAGTTGAGT ATTTCGTATC       1320

CTACTATGAT TATTACCAGC CAGAGGCCTA TGTCCCTTCT AGCGATACCT ATATTGAGAA       1380

GGATAGTTCT GTCAATGACG AGATTGACAA GCTTCGCCAC TCAGCTACCT CAGCCCTTTT       1440

GGAGCGTAAT GATGTTATTG TCGTGGCCTC AGTCTCTTGT ATCTATGGTT TGGGTTCGCC       1500

CAAGGAATAC GCTGATAGTG TCGTTAGTCT CCGTCCTGGT CTAGAGATTT CTCGTGATAA       1560

ACTCTTGAAT GACTTGGTCG ATATTCAGTT TGAACGTAAT GATATTGATT TCCAACGCGG       1620

AAGATTTCGC GTTCGTGGGG ATGTGGTAGA GATTTTCCCA GCTTCCCGAG ATGAACATGC       1680

CTTTCGAGTA GAATTTTTTG GAGACGAAAT TGACCGTATT CGTGAAGTTG AGGCTCTGAC       1740

AGGTCAGGTG TTGGGAGAAG TGGATCATTT AGCGATTTTC CCAGCGACAC ACTTTGTGAC       1800

CAATGACGAC CACATGGAAG TTGCCATTGC AAAGATTCAG GCCGAGTTGG AAGAACAATT       1860

AGCTGTCTTT GAAAAGGAAG GTAAACTGCT TGAAGCCCAG CGTTTGAAAC AGCGGACAGA       1920
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965

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GTATGATATC GAAATGTTGC GTGAGATGGG CTATACCAAT GGGGTTGAAA ATTATTCTCG        1980

CCACATGGAT GGACGGAGCG AAGGAGAGCC TCCTTATACG CTTCTCGACT TCTTCCCAGA        2040

TGATTTCTTG ATTATGATTG ACGAGAGTCA TATGACCATA GGGCAAATCA AGGGCATGTA        2100

CAATGGAGAC CGTTCGCGTA AAGAAATGCT GGTTAATTAT GGTTTCCGTT TGCCGTCTGC        2160

TTTGGACAAT CGTCCTCTCC GTCGGGAGGA GTTTGAGAGT CACGTTCATC AGATTGTTTA        2220

CGTTTCAGCG ACACCTGGTG ACTATGAAAA TGAACAGACC GAGACAGTGA TTGAGCAAAT        2280

CATTCGTCCA ACGGGACTCT TGGATCCAGA GGTGGAAGTC CGTCCGACTA TGGGACAGAT        2340

TGATGACCTC TTGGGTGAAA TCAATGCCCG CGTTGAAAAA AATGAGCGTA CCTTTATCAC        2400

AACTTTGACC AAGAAAATGG CAGAGGATTT GACCGACTAC TTCAAGGAAA TGGGTATCAA        2460

GGTCAAGTAC ATGCACTCGG ATATCAAGAC CTTGGAACGG ACGGAGATTA TCCGTGACCT        2520

GCGCTTGGGT GTCTTTGATG TCTTGGTCGG AATTAACCTG CTCCGTGAAG GAATTGACGT        2580

TCCTGAAGTG AGCCTCGTAG CTATTCTCGA TGCTGACAAG GAAGGTTTCC TTCGCAACGA        2640

ACGTGGACTC ATCCAGACCA TTGGACGTGC TGCACGTAAT AGCGAAGGTC ATGTTATCAT        2700

GTATGCGGAC ACGGTTACCC AGTCTATGCA ACGTGCTATC GATGAAACTG CCCGCCGTCG        2760

CAAAATCCAG ATGGCCTATA ATGAAGAACA TGGTATCGTT CCACAAACCA TCAAGAAAGA        2820

AATCCGTGAC TTGATTGCTG TGACCAAGGC AGTTGCTAAG GAAGAAGACA AGGAAGTCGA        2880

TATCAATAGC CTCAACAAAC AAGAGCGCAA AGAACTAGTC AAAAAGCTTG AGAAACAAAT        2940

GCAAGAAGCA GTTGAAGTGC TTGACTTTGA ACTAGCAGCT CAGATTCGTG ATATGATGCT        3000

GGAAGTCAAG GCCTTGGATT AGGGGAATAG TATGATTTAT TTAAGAAAGT TAAAGAAAGA        3060

AGATTTGATG TCTTTATGGG AAATGGCTTA TTCACAGCTT AATCCAGTTT GGAAACAGTA        3120

TGATGCTCCC TATTATGATG ATTATCAGTA TTTTTCAAAT TTTAAAGAAT TCGAACTACA        3180

AAAATCAGAA TCCATTTTAA GCAACTCAAA TCGCCTTGGT ATTTTTGTTG ATGATAAACT        3240

AGTTGGGACT GTTTCGCGTT ATTGGGTATG TAAAGAAACA AGATGGATGG AATTGGGAAT        3300

TGGTATTTAT GATAAAAAAT TCTGGAACAC TGGTATTGGG AAAGTTGCTA TGTTGCAGTG        3360

GATAGATAGG ACGTTTCAGG ATTACTTGGA GTTGGAGCAT CTGGGTTTGA CAACTTGGTC        3420

AGGAAATATT GGTATGATGA AACTTGCTGA AAAATTAAGA ATGAAAAAAG AAGCTCATAT        3480

TCCAAAAGTT CGTTATTATC AAGGTAAATA TTTTGACAGT ATTAAATATG GTATTTTGAG        3540

AGAAGACTGG GAGAAAATAA ATGACGGTTA TTATCAAATC AATGGAAACT CCTGAAGAGA        3600

TAGAAGGTAA ATCCTTCGTT CACTGGCAAA CGTGGAGAGA GGCTTATGAT GACCTTTTGC        3660
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966

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CTGCGGAATT TCAGGAGACA ATGACATTAG AAAGATGTCG ACTCTTTAGT CAAAAGTATC        3720

CAGAAAATAC ATTGATTGCG ATGGATGGTG TGAAGATAGT TGGTTTTATA AGTTATGGCA        3780

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ATTATGGAAA AGGAATCGCA CAAAAGTTAG TGAAAGCAGC TTTGACTGAT CTTAATCATT        3900

TTTCTGAAAT TTTCTTATGG GTATTGAAAG ATAACAAGCG CGCCATTGCT TTCTATCAAA        3960

AAATGGGTTT TACTTTTGAT GGACAAGAAA AAATACTTGA ACTTGGAAAG CCTATAAAGG        4020

AAAAACGGAT GGTATTCTAT TCTAAATAAT TCTCAAAAGT AAAAGCTAAT ATGGTACCAA        4080

GTCTGAAAAT TTAATAAATT AGAAAGCGAG TAAATTTATG TCCCGTTCCC AATTAACAAT        4140

TTTAACAAAT ATCTGTCTGA TTGAAGACCT CGAAACTCAG CGCGTGGTGA TGCAGTATCG        4200

CGCCCCTGAA AACAATCGCT GGTCTGGTTA TGCCTTTCCT GGAGGTCATG TAGAAAATGA        4260

TGAGGCTTTT GCGGAGTCTG TCATTCGTGA AATCTACGAA GAAACAGGGT TGACTATCCA        4320

AAATCCTCAA CTTGTCGGCA TTAAAAATTG GCCACTAGAT ACAGGTGGGC GCTATATTGT        4380

CATTTGTTAT AAGGCGACTG AGTTCTCTGG TACCCTTCAA TCTTCAGAAG AGGGAGAAGT        4440

TTCTTGGGTG CAAAAAGACC AGATTCCAAA CTTAAATCTG GCCTATGATA TGCTACCATT        4500

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GTCGCGGCGA CAGGTCAGTT TTAGTAAGGT TTCAATCTCT CCATAAACAG GATGATCAAT        4800

CAAGATATTT TGAACGCGAC CACCATTATC TACGATAGCA AGTAATTCTC GTCCAATTTC        4860

TTCAACTTCA TGCTTGACCT TAAATAATTT GTGATGATAA GTATTTGCAT TAGCATCTTT        4920

ATAGATATAA CCACGATTGG TAGATAGAAT TGGAGATCCA TCAGCTCTTA AAATTGCAAT        4980

ATCTTGAACA ATAACTTGTC GAGTGACATG AAAGTGCTCA                              5020
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(2) INFORMATION FOR SEQ ID NO: 143:

        (i) SEQUENCE CHARACTERISTICS:
            (A) LENGTH: 4965 base pairs
            (B) TYPE: nucleic acid
            (C) STRANDEDNESS: double
            (D) TOPOLOGY: linear


        (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 143:

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AAAAAGTGGC AATCCATTGA TTGGCCACTT CATTTAGAGA ATTATCGTCT CGCCCTTGAA         60
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967

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GAAGAAGGTC GTGTAGTACT TGAGTTACTG CTATCGCTAG AACTACTACT TGAACTGCTG       120

GAGCTGGATG GAGTTGGTAG ACTCCCCACA ATACTAGACC AAGCATTCTG ATAATCCGCA       180

TCACTTCCGC CAATAGCAAA GCGATAACTT GTCGCTGGCG CTCCTGACTT ATTAGCCCAA       240

TAGCTGGTAA CAGTCGAACC TGTGACCTCT ACTTCTTTTC CTTCAACAGA AACCTTCTCT       300

GGTTTTTGAC CTGTTGATTT CAAGACTTCC GATTTCACTA CACTAGGATC TAAAGCAAAG       360

CGCTCGTTCC CCCAAATGCT TGGGGAAGCT TGCTGAATCG CATTTACCAG ATGAGCCATG       420

TAATTAGAGT TATTAGAATA ACCTGCTCTA CGTGACAATG AATGATTATC ATCATGCCCA       480

ATCCAGCCAC CTAGGGTTAA TCTAGGTGTC GAAAGCATGA GCCACATATT TTCGTCTTGG       540

TTGGTTGTAC CAGTCTTCCC AATCCAATCT GCATTAGCCA GAGTAGGATT TAAAGAAGTC       600

AGGTTAGACT TGAAGGTTGT TGTCACACGA GAGGATAGAA CTTCTCGTAG CAATCCCTGC       660

ATAATCGTCG CAGTAGCTTT TGAATAGACT TGAACCGGTT TATCCTGATA CTCATACACC       720

ACTCTACCAT CTGCTGCTTC AATCTTTGAA ATCACATGCT TCTGATGATA AACTCCATTA       780

TTAGCTAAGG TCTGATAGCC ATTGGTATGC TGGGCAACTG TGACTTCAAT ACCACCACCC       840

ATTGGCAAGC TCTCAATACC GTACTCAGGA ATCTCGTAAC CCATCTTTTC CATATAACCC       900

TTGACATCAA CACCCTTTTC ACGGAGCATA CGATAGGTCC AGTAAGCAGG GATATTCCAT       960

GAATAGTTCA GAGCTTCTCC CAAGGTCATC ATTCCTGTTC CCTTGCTATT AGCATACATA      1020

ATCGGATTGC CATTAGCAAA GTTTGTTGGA TAGTTAGATA GAATCGTTTC ACTTCCCATC      1080

AAGCCCTGGT CAATAGCAAT ACCGTAGGCC AGCAAGGGCT TGGTAGTAGA AGCTGGCGAA      1140

CGTTTGGTAT CAAAGGCATG ATTATTTTGA TTTTCTTGAT AATTACGACC ACCTACAAAG      1200

CCTAGAATAG CACCTGTTTG GTTATCCATC AAGACATTCC CTACTTCTAC ACGACCTGTT      1260

CCATCGTCTA AAAGATAGCC ATAATCAGCA ACCGCACTTT GCATGGCAGA ATGAATTTTC      1320

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GCTAGATAGT CATACATACG TTCTTGAGCT TCTGCCAAAG TTGTAAAGTA TAAATAGTCT      1500

CGTGAAATTC CTGTAACCGT GCCCGATGGT AAAAAGTCCT GTTTAAGGTC ATAATCCTTG      1560

TACTGAGAAT ACTCGTCTTT GCTTAATGCA CCTGTACGAT ACATACTGTA AAGAACTGCC      1620

TTAGCCCGTC TTAAGCCAAT TTCTAGGTCT TCATCACTCT TCAACTCCCC AGTATTTTCA      1680

TAAGGAGAGT AAGTAATGGG ACTCTGTGGA AGTCCTGCTA AAAATGCTGC TTGAGGAACA      1740

GTCAACTGAC TGGCATCTAC ACCGAAAATT CCCTCAGCTG CTTGCCGAGC CCCTGCAATA      1800
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968

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TTCTGTCCCT TATTATTTCG GCCAAAGGGA GCCACATTGA GATAGGTCGT TAAAATCTCA    1860

TCTTTATTCA TGGCGCGTTC CAAGGCAAGA GCATCCACAA TCTCTGCCCC CTTACGAGCC    1920

AAGGTCGGCG CATCCCCAAC CACCTGCTGT TTAATTAGTT GCTGGGTCAA GGTTGAACCC    1980

CCACTAGAGG AACCCAAACC TACAAATTTC CCCAAGGTCG CACGAATCAC CGCCTTGGGT    2040

ACTACACCCT TATGTTCTTT AAAGTGTTCA TCTTCTGTCG CAATGATAGC CTTCTTCAGA    2100

TTTTCCGAAA TTTGCTCAGA TGAGATAGAA GTGCGCAACA AATCACTCTC TATGGAAGCA    2160

ATCACCGTCC CGTCCGAATA GGTAATCTCT GAAATAGAAG AGATGTCCTT GACCTGATTC    2220

ACCAATTCTT CTGTCTGAGG CACCCGAACC TTGTCAAATA AGGCCACTCC GTATCCCAAA    2280

GCAATCCCAG CTCCCAACAT TCCTCCTAGA AAACCGAGTA CAAAGAGTAA GTTAAATAAG    2340

GCTTTTATAC TCAGTAAAAT AGCTGGGAAA ATGACTGACT TATCTAAGGT TTTAGATTTT    2400

TTGGTACTTG AACCTTTCTT GCCAGGTCTA GCTGATTTTT TATTTTTTTG TTTTTGCTGG    2460

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TTATCTATTA TACCACAAAA GGGAAATTTT CAATAAAATA GCCACTTTCT TCCCTATTCT    2580

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ATGAAGAAGC TTTGCGTAAA GCCCTAGAAG AAGGTCAAGT TTCTTATTAT ACTGGCTACG    2760

ATCCAACTGC TGACAGCCTT CACCTAGGCC ACCTTGTCGC AATCTTGACA AGTCGTCGCT    2820

TGCAACTAGC AGGTCACAAA CCTTATGCGC TCGTTGGCGG TGCTACAGGT CTCATCGGAG    2880

ATCCGTCCTT CAAAGATGCT GAACGTAGTC TCCAAACAAA AGACACAGTA GATGGCTGGG    2940

TCAAGTCTAT CCAAGGACAA CTTTCTCGTT TTCTTGACTT TGAAAATGGC GAAAACAAGG    3000

CTGTCATGGT CAACAACTAC GACTGGTTTG GCAGCATCAG CTTCATTGAC TTCCTCCGTG    3060

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TGGACGCTGA CGCTGTTCGC TTCTTGAAAA TCTTTACTTT CTTGTCACTT GATGAGATTG    3480

AAGATATTCG TAAACAATTT GAAGCAGCGC CACACGAACG CTTGGCTCAA AAAGTCTTGG    3540

CTCGTGAAGT TGTTACACTT GTTCACGGAG AAGAAGCCTA CAAAGAAGCA CTTAACATCA    3600
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969

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CTGAGCAACT CTTTGCAGGA AACATCAAAA ACCTTTCTGT CAAAGAGCTC AAACAAGGAC      3660

TTCGTGGTGT GCCCAACTAC CAAGTACAGG CAGACGAAAA CAACAATATC GTGGAACTGC      3720

TCGTCTCATC TGGTATAGTT AACTCAAAAC GCCAAGCCCG TGAAGACGTC CAAAACGGAG      3780

CCATCTACGT AAACGGCGAC CGCATCCAAG AGCTTGACTA TGTCTTGAGT GACGCTGATA      3840

AGTTAGAGAA TGAACTGACT GTTATCCGTC GTGGGAAGAA AAAATACTTT GTATTGACTT      3900

ACTAAACTAT TCAACATTTA TCTATAAACA AAGGAGTTAA CCTCGAGAAA GGTAACTCCT      3960

TTTTGCTGTT AATAACTCTC ATCTATCTAT TTTTAATAGA CAGGCTACGC AGGACAATGC      4020

GCAAGGTTGT TAGATTATGT AAGATAGAGA GATTTGAAGG ACTGAACCAA TTAAATAAGC      4080

CAAAGCCAAT CAAACTACTA TTTACGACAA CGGTATCCTG AATATTTTTC TTGATGAGTG      4140

TTTGCAAAGA TGATGATAAC GAATCCAACT CTTGGAAGAA ATCCAAACGA TTATCTAACA      4200

ATAAGATATC ACTCATCTGC TTAGAAATAT CTGCACTCTC ATTCATCACC ACACCGATAT      4260

CTGATAGAGT TAAAGCCGCT GAGTCATTCA ATCCATCTCC AACCATCAAA ATAGTGTGAC      4320

CTGCTTTCTG CAGTTTCTCT ACTAACTCAA ATTTCCCATC AGGTTTCAAG TCTGTATAGA      4380

CCTGATCAAA GGGCAAATCT TTGACTAATT CCTCTGTCCT AATCAAGGTG TCTCCTGTTG      4440

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GATTGTAGTG ACTCTTGTAC TCTTCAATTA AAGCATTTTG TTCTGAACTG ATATGAATCT      4620

GCTCATCCTG CATCAAGACA TAATTCCCAA TAAGAACTGG TTGGCCATCT ATATGAGATT      4680

TGATCCCCTT GCTTGCGATA TATTGGAGTT TCCCATGCAT TTCCTCATGT TCAATTCCCT      4740

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AGGCACTGAT TCTGAGAATA TCTTCCTCAC TATAGTCTCC AAAAGGTAAC ACCTTTTCAA      4860

CTATAGGATA ACTAGTTGTG ATTGTTCCTG TCTTATCAAA CAAGAAAGTA TCAACTTCCA      4920

GATATTTCTC CCTGTTGTGG CCTCTGGCTG TCATCTCTGT GCTGG                     4965
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(2) INFORMATION FOR SEQ ID NO: 144:

        (i) SEQUENCE CHARACTERISTICS:
            (A) LENGTH: 3232 base pairs
            (B) TYPE: nucleic acid
            (C) STRANDEDNESS: double
            (D) TOPOLOGY: linear


        (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 144:

                                         970
CAGGGGCGTA TTACGTGACA ATTCAATGTA GGCTGTCGCT ACTTGCGCCA AAACAAGGAT          60

TCGATAATGT CGGATGATAC TAACGATTAA ACCGAGCAGA AAGGATCCCA AAATTCCCCA         120

AACTGCAATA TGCAAGGTCA GAAAGAATGC CTTTTGATAT AGTGGTAGAT ATTGTTCAAC         180

AATGGATCAA TCCAAAAATA GAACCTCCCA TCTAGAAATA ATACAGTTAT TGTAGCACTT         240

AAAATCTTCT TTGGATAATA TCTATTTTTT ATTGCCGTTA TAAGGATTTT TATCATAGAC         300

ATAAAATTTC TGAAATTTCC AAACAAAATA TTTTAAAAGT TTTGAAAAAG AGTTAAGATA         360

TTTTTGTAAT ACACAAAGTA AACGCTTACT TATTAAGGAG GACATTTTAT GTCATACAAA         420

ACAAGCAATG CAGAAGGTCA TGTAGATTTC ATCAATACCT ATGATTTGGA GCCAATGGCG         480

CAACAAGTTA TTCCTAAAGC AGCATTTGGC TATATCGCTA GTGGGGCGGG AGATACTTTC         540

ACTTCTTTCC AGTGATTTTA GCGTCAGGTT CTTTTTAGTT TTTAAAGATT ATCCGTGAAT         600

TTCTTGCTTA TTTATGATAA AATGGGAGTG TCGCAAAAAA TGACTCATCG TATTCAATTT         660

TGAGTAAAAC TAGGAGGATC CCATGTCTAC AGAACATATG GAAGAACTAA ATGACCAGCA         720

GATCGTTCGC CGTGAAAAAA TGGCTGCGCT CCGCGAACAA GGAATCGATC CTTTCGGAAA         780

ACGTTTTGAA CGTACTGCAA ATTCACAAGA ATTAAAAGAT AAATATGCCA ACCTCGATAA         840

AGAACAATTA CACGATAAAA ACGAAACAGC TACTATCGCA GGACGCTTGA TAACCAAACG         900

TGGTAAAGGA AAAGTTGGTT TTGCCCACCT TCAAGACCGC GAAGGCCAGA TTCAGATCTA         960

CGTTCGTAAG GATGCTGTCG GTGAAGAAAA CTACGAAATC TTCAAAAAAG CAGACCTTGG        1020

TGACTTCCTT GGTGTCGAAG GTGAAGTGAT GCGTACGGAT ATGGGAGAAC TCTCTATCAA        1080

GGCAACCCAC ATCACACACT TGTCTAAGGC TCTTCGTCCT CTTCCTGAGA AATTCCATGG        1140

TTTGACAGAC GTTGAAACAA TTTACCGTAA ACGTTACCTT GACTTGATTT CTAATCGTGA        1200

AAGCTTTGAA CGCTTTGTCA CTCGTTCAAA AATCATCTCT GAAATCCGTC GTTACCTTGA        1260

CCAAAAGGA TTCCTTGAAG TGGAAACACC TGTTCTTCAT AATGAAGCCG GTGGTGCTGC        1320

TGCCCGTCCA TTTATCACCC ACCACAATGC CCAAAACATT GACATGGTGC TTCGTATCGC        1380

GACTGAGCTT CACTTAAAAC GCCTTATCGT GGGTGGTATG GAACGTGTCT ATGAAATTGG        1440

CCGTATCTTC CGTAACGAAG GAATGGACGC TACTCATAAC CCTGAGTTCA CTTCTATCGA        1500

AGTTTACCAA GCTTATGCAG ACTTCCAAGA CATCATGGAC TTGACTGAAG GCATTATCCA        1560

ACACGCTGCT AAATCAGTCA AAGGTGATGG CCCAGTCAAC TACCAAGGTA CTGAAATCAA        1620

GATTAACGAA CCATTTAAGC GTGTTCATAT GGTGGATGCT ATCAGAGAAA TTACTGGTGT        1680

CGATTCTGG CAAGACATGA CTTTGGAAGA AGCTAAAGCT ATCGCTGCTG AGAAGAAAGT        1740

TCCAGTTGAG AAACACTACA CTGAGGTTGG TCACATCATC AATGCCTTCT TTGAAGAGTT        1800

971

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TGTTGAAGAA ACTTTAATCC AACCAACCTT TGTCTATGGA CATCCAGTAG CTGTATCTCC    1860

ACTCGCTAAG AAAAATCCTG AAGACCAACG CTTTACTGAC CGTTTCGAGC TCTTTATCAT    1920

GACTAAGGAG TACGGTAATG CCTTTACTGA GTTGAACGAC CCAATCGACC AACTTAGCCG    1980

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TGACTACATT GAAGCTCTTG AATACGGTAT GCCACCAACA GGTGGTTTGG GAATCGGTAT    2100

CGACCGTCTC TGCATGCTCC TCACTGATAC AACAACTATC CGTGATGTAT TGCTCTTCCC    2160

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GACTGAATTT AAGGAGAAAA TGAAGTGTAG TATATTGAAA TTGAAATAGT ACACTTTGAT    2280

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CTATTAGAGG ATGTTCTGGT GTCTTATTCA CTTGTTTTTT ATAGTATTAG TAGATAGAAT    2580

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CAATTCGGAA TAGGCATAGA GACTAGACAA TTTGAGGAGC TGCTTGCGTC CTGTTCGAAC    2940

ACATTTTCCC ACCACGTGAA GAAAAAGATG GCGGAAGCGT TTGATTGTTA AAGTTTGGAA    3000

GTCACCTCCA GCTAGATGTT TGAGAAAAAG ATAGAGATTG TAGGCGATAC AGCTCATCAT    3060

CATACGAACT TCGTTTTTGA TTAAGGTTGA ACTATCCGTT TTATCGCCAA AAAATCCCTC    3120

CTTCATCTCC TTGATGAAAT TCTCGGCTTG ACCACGTCCA CGATAAAGCT GAAACTGGTC    3180

TTGGCTTGTT CCACTCGTCA TATTTGTAAC GAGAGAAATA ACATCGTAGA AC            3232
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(2) INFORMATION FOR SEQ ID NO: 145:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 10711 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear

972
(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 145:

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ACACAAATAT TACCAGTAAC GTGGTTGATG GTTTGCTAGA AAATGATCGC TACGGGAACT       240

TTGTGCCGTC TATGGCTGAG GATTGGTCTG TATCCAAGGA TGGATTGACT TACACTTATA       300

CTATCCGTAA GGATGCAAAA TGGTATACTT CTGAAGGTGA AGAATACGCG GCAGTCAAAG       360

CTCAAGACTT TGTAACAGGA TTAAAATATG CTGCTGATAA AAAATCAGAT GCTCTTTACC       420

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CACAAGTAGG AATTAAGGCT CTGGATGAAC AGACAGTTCA GTACACTTTG AACAAACCAG       540

AAAGCTTCTG GAATTCTAAG ACAACCATGG GTGTGCTTGC GCCAGTTAAT GAAGAGTTTT       600

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ATCCAACAAG TGCAAGTTTC GCAGAACTTG AGAAGAGTAT GAAGGACAAT ATTGTCTATA       900

CTCAACAAGA CTCTATTACG TATCTAGTTG GTACAAATAT TGACCGTCAG TCCTATAAAT       960

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TCAAACCTTC TGTAGGAGAA AGTACTAAAA CATATTTAGG GTTTGACTCA GGGGAAGATA      1620

ATGTAGCTGC TAAAAAAGTA GGTCTATATG ACTACGAAAA ATTGGTTACT. GAGGCTGGTG      1680

ATGAGACTAC AGATGTTGCT AAACGCTATG ATAAATACGC TGCAGCCCAA GCTTGGTTGA      1740
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973

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AGGAAAAATG GATGAAAGAA AAAGAAGAGT CTAATAAAAA GGCTCAAGAA GATCTCGCAA    1980

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CCTCTTTTTG TCAGAATAGA GAAAATTTTT GTTAATTTTA CTTGTTTCCT ATTGCTTTCT    2160

CAGCTATTAT TTGTTATATT AAAAGTATAA TTATTTTTTA TTTATCAGAG TTAAGCATTG    2220

CACTTTCAGA GGAAGGAGTA TTTTTTAAAA AGAAAATGTA AACGTTTGCT CAAAAATGAA    2280

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GTTCTTGCAG ATAGCGTGCA GTCTGGTTCC ACGGCGAACT TACCAGCTGA TTTAGCTACT    2460

GCTCTTGCAA CAGCAAAAGA GAATGATGGG CGTGATTTTG AAGCGCCTAA GGTGGGAGAA    2520

GACCAAGGTT CTCCAGAAGT TACAGATGGA CCTAAGACAG AAGAAGAACT ATTAGCACTT    2580

GAAAAAGAAA AACCGGCTGA AGAAAAACCA AAAGAGGATA AACCTGCAGC TGCTAAACCT    2640

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ACAGTCACTA TCCGAGAAGA AAAAGGTGTC CGCTACAACC AACTATCCTC AACTGCTCAA    2760

AATGATAACG CAGGCAAACC AGCCCTGTTT GAAAAGAAGG GCTTGACCGT TGATGCCAAT    2820

GGAAATGCAA CTGTTGATTT AACCTTCAAA GATGATTCTG AAAAGGGCAA ATCACGCTTT    2880

GGTGTCTTTT TGAAATTTAA AGATACCAAG AATAATGTTT TTGTCGGTTA TGACAAGGAT    2940

GGCTGGTTCT GGGAGTATAA ATCTCCAACA ACTAGCACTT GGTATAGAGG TAGTCGTGTT    3000

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CTAAATGCCA GCAATAATGA TGTCAATCTC TTTGACACAG TGACTCTACC AGCTGCGGTC    3120

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CGAACAGTTG TTAGCGTTAA AACGGATAAC CAAGAGGGGG TAAAAACAGA GGATACCCCT    3240

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TCTAAGGTCC TCAAAGCAGT GATTGACCAA GCCTTCCCTC GTGTCAAGGA ATACAGCTTG    3360

AACGGGCATA CTTTGCCAGG ACAGGTGCAA CAGTTCAACC AAGTCTTTAT CAATAACCAC    3420

CGAATCACCC CTGAAGTCAC TTATAAGAAA ATCAATGAGA CAACAGCAGA GTACTTGATG    3480
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974

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AAGCTTCGCG ATGATGCTCA CTTAATCAAT GCGGAAATGA CAGTACGCTT GCAAGTTGTA    3540

GACAATCAAT TGCACTTTGA TGTGACTAAG ATTGTCAACC ACAATCAAGT CACTCCAGGT    3600

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GTCTCTGTTT CTAGTAATCA AACTGGTGCT AAGTTTGATG GGGCAACCAT GTCAAACAAT    3720

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GTCGGAAATG CCAACTATGT AGGAATCCAC AGCTCTGAAT GGCAATGGGA AAAAGCTTAT    3960

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ATGAACTTTG GTTCTCAAGC ACAAAACCCA TTCCTTATGA CCTTGGATGG TATCAAGAAA    4200

ATCAATCTCC ATACAGATGG TCTTGGGCAA GGTGTTCTCC TTAAAGGATA TGGTAGCGAA    4260

GGCCATGACT CTGGTCACTT GAACTATGCT GATATTGGTA AGCGTATCGG TGGTGTCGAA    4320

GACTTCAAGA CCCTAATTGA GAAGGCTAAG AAATATGGAG CTCATCTAGG TATCCACGTT    4380

AACGCTTCAG AAACTTATCC TGAGTCTAAA TACTTCAATG AAAAAATTCT CCGTAAGAAT    4440

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GTCATCCAAG ATGGTTCAGC TTACTTGACT CCTTGGAACT GGGATGCAAA TGGTAAGAAA    5220

CTTTCTACTG ATAAGGAAAA GATGTACTAC TTCAATACGC AGGCCGGTGC AACAACTTGG    5280
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975

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GGCATGCACA TCTATGACCA AGGATTTAAT AGCGGTACCT TGAAACATTG GACCATTTCA    5520

GGCGATGCTT CTAAGGCAGA AATTGTCAAG TCTCAAGGGG CAAACGATAT GCTTCGTATT    5580

CAAGGAAACA AAGAAAAAGT TAGTCTCACT CAGAAATTAA CTGGCTTGAA ACCAAATACC    5640

AAGTATGCCG TTTATGTTGG TGTAGATAAC CGTAGTAATG CCAAGGCAAG TATCACTGTG    5700

AATACTGGTG AAAAAGAAGT GACTACTTAT ACCAATAAGT CTCTCGCGCT CAACTATGTT    5760

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CGCACTCACT TGTCTGAAAA ACACAATCCA TATACACAAC GTGGTTGGAA TGGTAAGAAA    6120

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AACTTGGTTT ACCAAACCAT CCCACAAAAC TTCCGTTTTG AAGCAGGTAA GACCTACCGT    6240

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AATGGTAACT TGCGAGATGT GAAACTTGTT GTGACAGATG AGTCTGGCAA GGAGCATACC    7020
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976

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ATCAAGGCTA AGAAAATTGT CCTTACTGGT ACCAAGACAT ACGGAGATGG TGGAGATAAA    7140

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GAGGAAGTAG CTAGCGTTCA GGCAAGCATG AAATATGCGA CGGATAACCA TCTCTTGACG    7320

GAAAGAATGG TGGAATACTT TGCAGATTAT CTCAACCAAT TAAAAGATTC TGCTACGAAA    7380

CCAGATGCTC CAACTGTAGA GAAACCTGAG TTTAAACTTA GATCTTTAGC TTCCGAGCAA    7440

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977

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GGTAATTACT TGCTGATTTG AGACTTTGTA GTCCATCAGT AATTGGTGTA TTGACTGCTT    9180

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GCTCGAATTC GTAATCATGT CATAGCTGTT TCCTGTGTGA AATTGTTATC CGCTCACAAT   10500

TCCACACAAC ATACGAGCCG GAAGCATAAA GTGTAAAGCC TGGGGTGCCT AATGAGTGAG   10560
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978

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CTAACTCACA TTAATTGCGT TGCGCTCACT GCCCGCTTTC CAGTCGGGAA ACCTGTCGTG          10620

CCAGCTGCAT TAATGAATCG GCCAACGCGC GGGGAGAGGC GGTTTGCGTA TTGGGCGCTC          10680

TTCCGCTTCC TCGCTCACTG ACTCGCTGCG C                                         10711
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(2) INFORMATION FOR SEQ ID NO: 146:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 11887 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear


    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 146:

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TACATTCATT CCATCGGCTA CTCCATAATA CTTAGATAAA ACCATAGCTG AAGTCGAATA            60

CGGATACTGT AAAGTATTAT CAATTTTAAT CAAATCATCA TTACCGATAA TACTTCTGAT           120

TGCTTTTGGT AGTATGAACC ATACGTTGGT GAAATCTCAG ATAATGAAGA ATCATTAGAC           180

TCTGGACCTT TTTCTAGTGT CTCACTTACC TCATATTCTT CACCCTTACT AGAAATAACA           240

CTCAAAGCAG ATACTGTCGA TAACTGGCTA GCCAATAAAG TACTCGCAAT AATTGAAATA           300

CCCAATTTTT TATAAACAGT TTTCTTCATT ATTGTATCCT CCTAATGTAA TTATAGCGTA           360

CTATTCTAAA TTTCTTAATC TACTATAGAA TCAAGAAATC TACCACCTTC TTTAAATACC           420

CTCCATTATC ACATAAACAG GTAAACTTTT CAATTAATGA CTGCGCTTTT CAATCACGCT           480

AGAGGTACTT GCTTGCTTCT TTGATACTAA GTTCAGCCAT TCTTTCCTTG TTTTTCTCAA           540

TAAAGCATGT TACCCAAGTG GGATTCGTTT TGGAGTAGTC TCGCAGAGTC CAGCCAATGG           600

CTTTATTGAT AAAAAATTCT GTTTGGTTCA AGTTATGAAG GAGAATCTTT TCCATTAATT           660

GAGTATTGGT CTTCTCTTTT CTTAACAACT GGTGGTCAAT AGCGACACGT CTCAGCCAGA           720

TATTATCTGA TAGGCTCCAT TTTATACTCA ATGAAAATCA AAGAGCAAAC TAGGAAGCTA           780

GCCGCAGTTG CTCAAAACAC TGTTTTGAGG TTGCAGATAG AGCTGACGTG GTTTGAAGAG           840

ATTTTCGAAG AGTATTAAGA TTATTTCTTC TAGTTCAGGG TGTTCATACA CCAAACTCCC           900

TACTACTCGA TCTAGGATAT CTACCGTGTC CCACAAGGAT TTTGTCACGA CTAACTGCTC           960

TAGCTTAGGC AAATCGGTTT CCTTTAGATA AGACTGCATT GCTTTCAAAT AGTTAGCAGC          1020

CACATATTGG TATTTTCTAG GATCCTTTTC CCAGCAAGTG TCTGCAAAAT CCCAATCGAT          1080

AATCTTTGTT TTTTTCGCTT CTGGAAAATA TTTTATAGAG TTTATTTCTT TCAGGCACCG          1140

CAATACCTAG AAAAGAAAAT TGATGGCGCA TATAGGCTTC CATGGACCTT GCTTTTTTAG          1200

AGTCTTTTGC TGCTTCTAGC TCCTCAAGTA AATCTGCTAA ACTCATCTAA AACTCCTCTT          1260
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979

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GCCCCACCAA ATGGTGCTGA AAGGCATAGA CAGCCGCCTG GGTACGATCG CTGACTTCAA     1320

GTTTGGCAAG AATATTGGAC ACGTGGGTCT TGACCGTCTT GAGAGAGATA AAGAGGTCAT     1380

CTGCGATGCG CTGATTTTCG TAGCCCTTGG CGATGAGTTG GAGAACATCT CGCTCACGCG     1440

CAGTCAATTC TTCATGAAGT TCCATATGAT TGCGGTGGTA TTCAACCTTC TTGCTAACCT     1500

CTTGCTCAAT GGCCAGCTCG CCAGCAGCTA CCTTACTGAC GGCATGAAGC AATTCATCTG     1560

CACTAGAAGT CTTGAGCATA TAGCCTTTGG CACCAGCATC TAAGACTGGC ATGATTTTTT     .1620

CATTGTCCAA ATAAGAGGTC ACAATCAAAA TCTTGGCTTC AGGCCATTCT TTAAGGATTG     1680

CTAAGGTCGC GTCAATCCCA TTCATCTCAG GCATGACAAT ATCCATGACA ATGACATCTG     1740

GACGCAGTTC CAAGGCCAAG TCAATCCCTT GAGACCCGTT GGACGCCTCA CCCACAACTT     1800

CTACATCGTC TTGGAGGTCA AAGTAGCTTT TCAAGCCCAA TCGGACCATT TCATGGTCAT     1860

CTACTAGTAA AATTTTCATC TTTACTCCTT TATCATTCCT TATCTAACAG GGGAATACGG     1920

ATATCAACCG CCAGCCCTTG CTTGGGAGCT GTCAAGAGTT GAACTGTTCC AGCCATATCT     1980

TCAACCCGCT CCTTGATATT TCGCAGTCCA TAACTCAAGT CGTCTAAGCT CCCTAACTGG     2040

AAACCAATCC CATTGTCCAC CACCTTCAGT TGCAATTCAA CATCTGTCTG ATAGAGGTAG     2100

ACATCTAGGC AAGATGCCTG GGCATGGCGG AGGGTATTGC TAATCAACTC TTGCAGGATA     2160

CGGAAGATAT GCTCCTCGAT TTTCTTAGGC AATTTCGTCA TATTCTGCTT GAGACTAACC     2220

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GCAAGGCTCT GATTTTCAGC TTTTTGAAGA GCCTCTGTCA AAAGGTTAAG TTTACCTGAT     2580

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AACAGGGCTA AGAGACAGGT CATGGACATG CTGAAAACCA ACAATAAAAA GACAAATTTT     2760

TCTGTTTTTT CGACATCGTG CAAAAAGATA GACCAGTCAA AATCAAGTAT TTCCAGCAAG     2820

CTGTGGGAGA AAAAAAAGAC AAATAGGAAG GAGGTGAGAG CAATAATGAC ATAGGCTTGT     2880

TTTTTCATCC TCTAACCACC TCCACATCAC CAATCATAGT GGTCAAGAAA ATCTTGACAC     2940

TCTTGTTACT CTTGAGATAG TCTTTTGTTT CTTGATGATA GTGTTCATTG CGGAGGGCTC     3000
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                                        980
     GCTTGGGCTG GTTGAAAAAA ATCAAATCCC CATAGAGACA GTTAACGCTG AGACTGACTT    3060

     CCACATCTAC AGGTACGATG ATTTTGGTCG TTCCTACCAT CTTTCTGAGG ATAATGACAT    3120

     TGTCATGATT GGTTAAGATG ACCCTCTCCA GATGAATAGT GTCCTTGCCC ATGAAGCGAA    3180

     AGAGATTGAT ATCATCGAAT TGGCAAGTCT GGTAGCTTGA AAAATGATGA AGATTTCCAA    3240

     ACCAACGATT TTTCTCCTTC TTAACCGTCA CGACCTCTTC AAAAACCAAA TTGGTCTGCT    3300

     CTTTTTCCTG GTTCATCATC GGGTAAAGAA GAAAGAGGCT ATAGATAACC GCAACAAAAA    3360

     TAGCTAGAAT CACAAAAGGA TTGAGCATAA CGATGAAAAA GAAGAGAATG GTTGCCGCTA    3420

     CTAAAAGAAG ATTATTTCCC TCTTTACCAG TGTAGTAGCG AATCAAAAGC AAAAAGAGGA    3480

     ATAGTATCAG CAGAAAACGC GAAAAATGCT CTGATACCAT CAAAATCAGA GCTCCTGTCA    3540

     GAAGACAGGC TTCGATAAAT AAAAAGATTT TAAATTTTCT CATAGGTTCA TCCTCTCCCT    3600

     TCTATTTTAT CACAATTCAA AAAAGTCACC TCAGTCTGAG GATGGAAAAA AGGCGCTGGT    3660

     TACGCCTTTT TCATCTGATC CTTTGCTTCT TTTAATTTTC CATAAAGAAG ATAGTCTACT    3720

     TTTTGTAGAT CTGCTATGGT GGCACAGTTA AGGGAACACA TAATCAAGCG TAGATCTGCT    3780

     TTCCAGCCTT GGACAATGCC AATCACTTCT TCAACTGTGT AGGTTTCAAC CAATTCCAGA    3840

     ACGGTTCGTG ACAATCCCAC AGCCTTAGCA CCAAAAACCA AGCACTTAAT CATATCCAGC    3900

     GGATTCCGAA CCCCTCCACT AACCAAGAGT TCGACCTTAT CTTTCCATTC TTGGGCATTG    3960

     AGAAGGGCCT GCATGGTAGA CTGACCCCAT TGATTGAGGT AATCACGCTG GCCACTACGA    4020

     CGGTTTTCGA TATAGGCAAA GCTGGTGCCA CCACGACCCG ATAGGTCCAC TGTACGAACA    4080

     CCGAATTCAT AGGCTCTTTC GATTGTCTTG GCATCCATTC CAAAGCCCAC TTCCTTGAGG    4140

     ACAATAGGAA CGGGAATTTG CTTGCTATAA TCTGCTAGAT GCGATTGCCA GCTTCTAAAC    4200

     TTCCTTTCTC CCTCGGGCAT GAGTAATTCC TGCATGACAT TGACATGCAC TTGCAATAGA    4260

     ACAGGATTCA TCTCTTCTAC AGTCTGAAGT CCTAACTCGA CAGGCTTGTC CAATCCAATA    4320

     TTGGTTCCAA GGAGGAGATT GGGATGACTA GACTTGACAG AAAAAGAATC ATCCGTTGGA    4380

     TTTTTGAGGG CTGCGCTATA AGAACCCGTT ACAAATAAAA TACCACAGGA TTCCGCCACC    4440

     TGAGCCAGCT TTTGATTGAT TTCTCTTCCC TTATTACTTC CACCAGTCAT GGCATTGATA    4500

     TAAAAAGGAA AGTCCCACTT TCGACCAGCA AACTCTGTCG AAAGATCGAT TTCATCCAGA   ·4560

     TTGTAAAGAG GCAAGGAAGA ATGAATCAGC TCCACCTCAT CAAAGCTATT ATAGGAACTT    4620

     TTCTGCTCAA GGGCATAGAG GATATGCTCG TCCTTACGAT TTGTCGTCAT GTCCTATCCT    4680

     TTCTTGATAT AAGAGCTCAA TCCCCAGATC GGCCCAACGA TTTTTTAAGG TTTTGGTTGA    4740

     TTGCGCATCA AAACTCAGGG CGATGCCACA GTCACCACCA CCAGCACCAC TACTCTTGGC    4800
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981

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TTTCCCCTGT TCCAAGGCTT CTACCAGAGA AGTCACCGTT TCTTTTGAGG AAGTTAAAAA        4980

ATTTTGATTG ATATTTTGCT TGATTTGCTG GACCATGTGA CTCGATACAG CCACTTCCTT        5040

GGTCCATCCC ACTAAGAAAT CACATTCTAA AGTTGGTTTC ACTTGTGAAA TTGAAAAGCC        5100

CCAATCACGC TCCAGAACTG TCGCCAAGTT TTCTTCTTCT AACCAAGCAG CCACCTTCTG        5160

GCGATCAAAT GACTGGTAGA GAACCAAATC CTCTGCCACA ATACAGGCAA GGTCGCCCAT        5220

GGAACCATTG TCTCCTCGCT TAAGCAAGAC AGCGCTAGTC AGCTTGAACA AGAGCTCCTG        5280

ATCAACAGAA ACATCATACA GAGCCAGTAA AGCCTTGACA ACCAAGACAA CGACGCTGCC        5340

ACTAGAACCT AGACCAAACT TTTTCCCTTC TCGTTCCATT TTGCCACAGA TTTCTAGAGA        5400

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AACGATGACC GAAAATTTCT GATAAATGCT CCAAGTCTTT CTCCTGACAG AAGACCTTAA        5760

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CGTCGAAAGT CGTCGAGGTT TCCACACAAA GTTTCATCCC GTCACGGCTA GAGATTGGTT        6060

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AACCTGAGGC AAATTTGGCT TCCTGTGCCA ACTGACTTCT ATCCAATCCA AGCTTGAAAT        6240

AAGCATTACA AGCCTTGACC AGGGCGGACA AACCACTAGA ACTTGAGGAC AGACCCGCTG        6300

CCGTAGGCAT ATTGTTTTGA GTATCGATAC GGACAAAGCC CTCACCAGCT GGACGATAAC        6360

GGTCAATAAT CTTACTCATC TTGGCATGCT CGACCTCATT TTGTAGCTGA CCATTGATGT        6420

AAAATTCGTC AGCTGTTACA TTGGCTGGTA AAGGCGACAA GGTCGTCTCT GTATACATAT        6480

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982

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GGTTACCAAG GCTATGATAC AACCTCCTAG CCCACCACCG CTCATCTTGG CACCCAGAGC    6720

ACCATGGCTA AGAGTCGTTT CAACCAAAAA GTCTGCCTCA GGGCTACTGA CTCCAATTTC    6780

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ATACTCCAGT GAGGCATAAA CCGCCATGGA CAAGGTATCC TCCTCATAAA GGCGCCAAGG    7320

ACTCTCTGCA GGAACTACCT TACAGGTCAC CTCCACCTCC AAAAGAGGCA GGGAAATGGC    7380

AGGATAACCG TAAACGACCG CATGTTCCCC TATTAAAATT ATCTTACTAT GTGCCTGACC    7440

GACACCAACT TTTTTTGTCA TTTTTTCCTT TTACTAGACG AAAAAACGTC TTATTTTTCA    7500

TACAAGTATT AATTCTTTCC TATCTATTTT ATTATATTTT CACAAAAAAA GCGATTGTTT    7560

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TGTAAAAATA TATACTATAG TAGATTGAAA CTAGAATAGT ACACCTCTAC TTCTAAAATA    8100

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TAATATTTGA TAAGTTATCC TAAAAGTATT ATTATGTTGT TGTGTTATAG ATTGATTGAA    8220

TCTAACTAAA GGATCCTATT CAATTACTAG AACTATCACA TACTCAAGGT CAGCTCACAG    8280

ATGAGCAACT ATTTTGGTTA CAATGTCTAC TAAATTTAAG TCAAACAAAT AATTTAGTCA    8340
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983

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AAATTAAAAA AATAGAGGAA CATAAATATG ATTACAAAAC AGAATGTAAT AGTGTTCTAC     8400

AATTTTTACT AGATAAAACT GTAAATTCTG AAGGAAGGAT CACTTCTTCA ACAGAATTTG     8460

GAAATTTCGT AAGTAATTTA TCATTCCAAC ACGGAATAGC TGGACTACTG TTTCCTCTAA     8520

ATAAATTGTA CCCCCCAGAA CTGGATTCTA AAATACTCTC TATCATCAAG AAGGCAGTGA     8580

CAATTAGAAC GACACACACA TATGAATATC AATACTCACT GCTATTTGGT GATGCAGGCT     8640

ATCTATGGTT ACTCCTACAT TTATTTTCTA TCAGTAAAAA TCAATACTAT CTACAATTAG     8700

CAAACGTCAC CGCTAAAAAA TTAATAGAGA ATTATGATAC TCTAGAGGAA ATAGACTTTG     8760

CATTGGGAAA ATCTGGTGTC CTATTATCAT TAATAAAATA CTATCAATTT ACCAATGACA     8820

ATACTCTTAA AATTTTCATC CACAATAGTA TAGGGGAAAT TTATCATTAT TTCCTACAAA     8880

GAGATACAGC CAAAGAAAGC ATTTTAGACT ATAGCTTTGC TCATGGATAT TGTGGAATTG     8940

CATATGCTTT ATTTGCCTAT TCTAAAGTCT TAGAACCTTC TATGTTTTAT AATGATCTCC     9000

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984

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TGTTTCTGAC GACCAGTATG ATTGCCATCT TGGATGTGTC CCCTCGGCTG ATTGCCCTCC      10200
GCTTCATCCA ACAGACACTA GCACAACTGA GCATTGGGCA ACTCCTCGCC CTGCTCTCCA      10260
TCATCATGTC TTGTGGAGCT ATCCTTGGCA ATATGACCAG CAGTAATCTA TTTAAAAATA      10320
TCCGTTTCAC GCACCTCTTG GTTTTCTGTG AGATTTCCCT ATTGACTCTA ATAACTAGTA      10380
TCCTTTGTCA AGCCTATATC GTAATTTTCA TGACCAGTTT CATCAGTTCT ACGATTATCG      10440
GCATTCTCAG CCCTCGCCTA CAAGCAGCTG TCTTTGCCCA TATCCCCAGT GACAAGATGG      10500
GGACGGTGGG CTCTGCTCTG AGCACAGTGG ACATTCTCGC CCCGTCCCTG CTCTCCCTAT      10560
TAGCCCTATC CATAGCATCG GGCGTTTCGG TGCAGTTAGC ATTGATATTT TTGTATCTTA      10620
TTTTAATTGC TCTTATCTTT TGTCAATGGT TAGTCAAGTT CAACACTCAT AACTAACGAA      10680
AAAGCATGTG TAGATTTCAC ATGCTTTTAA TCTCCCCAAT CGTCAGGTCA AGTACAACAA      10740
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ACCCATTCGC CATTATAGTT GACAGAATAG CCATCTACGG TCGTATTCAC TGCCAAAGCA      10860
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GCTCCTGATG AACGGAGATA GTACCATTTG TTCCCAAGGT TTTGCCAACC TGTTTTCATA      11040
TCGCCATTTG GGTGGTCTAA ATAATACCAA GTGGTACCTT CCTGATACCA GCCAGTGGCC      11100
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CGTCTTTCAC CACCAAGGTA GTTTTCTCCA TTAATTTCCG TCTTAGCTAG ATAATACCAG      11280
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CCAACACTGT CTTTAGTTTT AATCTCTAAT GTTTTCCAAC CAACAAACTC TTGTAGCACT      11460
CCATTTTTAT CGAAGTAGTA CCACTCTGAC TTTGGAAAAC CTTCTAATCT GATACCATTT      11520
GGGTAAGGAC CAATTGTACT ACCTTTAGAT GGAAACGGGA TATATTGCCA GCCGACAACC      11580
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TCTTTGAGGT CCCCCTTTTT GTAGTAGGTT CTTCCGTTTT CTTGGACAAA CTGCCATCCT      11700
TCAGAATCAT CTGCAAATAC TGTACTGGTC CCTAGCAAAC CAAAGAAAAA TACTGTCAGT      11760
CCAACTTGCA TAGTTTTTTT CAAAATTTTC ATCTATATAC CCTCCAATAT TAAATCCACT      11820
CACCAGATGA GGCGAAATTA TAAACTTTAC CATCGATAGT TTGGCTACCT GTAACCATTG      11880
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985

CTCCAGG                                                                          11887

(2) INFORMATION FOR SEQ ID NO: 147:

      (i) SEQUENCE CHARACTERISTICS:
            (A) LENGTH: 11340 base pairs
            (B) TYPE: nucleic acid
            (C) STRANDEDNESS: double
            (D) TOPOLOGY: linear


      (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 147:

CCGGTATGTT CTGGAATACT ACCAATCTAA GCTGGCTGTG CCCTACAGTT TTACAACCCT        60

GTACGAATAC CTTAAGGAAT ATGACCGATT TTTCAGCTGG GTTTTGGAGT CTGGTATTTC       120

AAACGCTGAT AAAATATCCG ATATTCCTTT ATCAGTTTTG GAAAATATGT CTAAGAAAGA       180

CATGGAATCC TTTATCCTTT ATCTACGTGA ACGTCCCTTG CTGAATGCTA ATACAACAAA       240

ACAAGGTGTT TCACAGACAA CTATCAATCG AACCTTATCA GCACTTTCTA GTCTTTACAA       300

GTATCTAACC GAGGAGGTTG AAAACGATCA GGGGGAACCT TATTTCTATC GTAATGTAAT       360

GAAAAAAGTT TCCACCAAGA AAAGAAAGA AACCCTTGCT GCCAGAGCTG AAAATATCAA       420

GCAAAAACTC TTTCTAGGTG ATGAAACAGA AGGTTTTCTA ACTTATATCG ATCAAGAGCA       480

CCCACAACAG CTTTCAAATC GAGCTCTCTC ATCATTCAAC AAAAATAAAG AACGAGATTT       540

AGCCATTATT GCCCTTCTCT TGGCATCTGG TGTTCGCTTA TCTGAAGCTG TTAATCTAGA       600

TCTAAGAGAT CTCAATCTAA AAATGATGGT TATTGATGTT ACTCGAAAAG GTTGCAAACG       660

TGACTCAGTC AATGTCGCTG CTTTTGCTAA ACCTTATTTA GAGAATTATC TGGCCATTCG       720

GAATCAACGC TATAAAACGG AAAAAACAGA TACAGCCCTT TTTTTAACTC TCTACAGAGG       780

TGTTCCTAAT CGTATCGATG CTTCTAGCGT TGAGAAAATG GTTGCTAAAT ACTCAGAGGA       840

TTTTAAAGTG CGTGTAACAC CCCATAAACT GCGCCATACA CTAGCAACTA GGCTCTATGA       900

TGCGACTAAA TCACAAGTTT TAGTCAGTCA CCAACTAGGA CATGCTAGCA CACAAGTCAC       960

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TTACGTATTT TAAATTATGT AAATAAATAT CAAAAAAAGA AGTTGGCCAA CTTCTTTTTG      1080

ATTTATCCAA CTACCGCTTC AGCGATTTCT TCACGGCTAA TACCAGCGAA GTAGCGTGTG      1140

ATATCAATGG TTTTTAGCGC CTTAAGAACA TCTTCGCGTT CGTATTTCAC CCCACGAAGG      1200

ACATCTTCTA CTGCAGCAAC GTCTTCAATA CCAAAGAAGT CACCATAAAT CTTGATGTCT      1260

TGGATTTTTG ATTCAGTAAC GTTAGCAAAG ACTTCAACCT TACCACTAGT GAATTTGATT      1320

986

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TCTGGGTACT CTTTTTTCAT GTATTCCAAG AGTAAATCAC GGAATTTTTC GACTGTGATT          1500

TTTTTTGGTA ATTCATTGAT AATATTGGTT ACACGGGCAC GGACGGATTT CACACCTTTT          1560

GATTCAAATT TATCTTTTGA AACCTTAAGG GCATTTGCGA GGACTGACAA ATCAACGTCA          1620

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CCACTAATAC GGCGAACTAC CTCAATACCA TTTTCGCGAA CATAATCACG GTTGATTTCT          1920

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ATTTGATCCT CATCCAAAAG GTGTTTAAAG GCGTATTCTT CCAAGGCAAT ATTAAAAGCA          2040

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CTGGAAATAA CCTTCCAGTC TAATCTATCT TCGTTTTATT TTTTCTTAGG TGAATGGATG          2160

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TGGATGGTCT TCAGCATTTC CTCAACAGTG ATTTCCATTT CGATGATGCT TGATGCTTCG          2280

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GCAACTGCAT GATTTCCTTT AAGGGCATTT TCAGCGGAAA CTTCACCCAT GCGGAAAGCT          2580

GCGTGAGCCA ACATCTTAGT ACCGTTGATG TCACCTGGTG CATAAATGCC TGGAACTGAA          2640

GTTTCCATGT ATTCGTTGAC CTTGATACAA CCACGATCCA ATTCAAACTC AACCTCTCUA          2700

ATACCTTCAA GGTCTGGCAT ACGACCAATT GAAAGAAGAG CTTTGCTTGC GATGATATCG          2760

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GTACCAGTCA AGATGGTCAT TCCTTTACGC TCAAGAATCA AGCGAAGGTT CTTAGAAACT          2880

TCCACATCCA TAGCTGGAAC TATACGGTCC ATCATTTCGA TAACAGTCAC TTTTGAACCA          2940

AATGTCATGA AGGCCTGACC GAGTTCGATA CCGACAACTC CACCACCGAT GATAACAAGG          3000

CTTTCTGGCA CTTCGTTCAT TTCAAGAATG TCATCACTAG TCATGACAAG TGGAGATTCC          3060

ATACCAGGGA CGTTGATCTT GTTGACTTTT GAACCACCAG CAAGAATGAT TTTCTTGGTT          3120
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987

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TCAAGCAATT CAGAACCATT TACCAAGACG TTCTTGTCTT TAGTGATTGT ACCAATTCCT    3180

TTATGAACAG TAACTCCGTA GCTACGAAGA AGTCCTGCAA CACCACCAAC AAGAGTATTA    3240

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TAGGTCTTGG TTGGAATACA TCCACGGTTT AAGCAGGTTC CACCAAGTTC AGATTTCTCA    3420

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CCTCCACCAA TCACAACGAT ATCAAAAGCA TCATCGCTCT TACCATCATC GTTTGAGGTA    3540

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AGAATGGCAA TCAAGTACCC ATCTTCTTCG GCTTCCAATT CCATGCTGAC TTTATCAGTC    3720

ATGATTTCCA AAAGGATTTC TCCTTCTTTT ACAAATTCTC CGACTTTTTT ATTCCATTGG    3780

ACGATTTGTC CTTCTGTCAT ATCCACGCCG GCTTTTGGCA TAATTACTTC TAAGGCCATG    3840

TCTTCCTTCC TTTATCTATA TCTTAAAAAT GAATACTCTT GCTCTTAAAT TAACATTGAG    3900

ATTGGCGTTT CAATCAACTC TTTCAAGTCC TTCATAAACT TAGCACCAGC CATACCATCT    3960

ACGACACGGT GGTCAATGGT TAATCCTAAA CTCATGATTG GGCGAATCAC AATTTCACCA    4020

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AATCCATTAT CCATCCCAAC TGCCATGGCA AGATTGACAT AGTTGTGAGT GATAATAGTC    4320

TTGCCATCTT CTGTCAATGA AGCGTTGATG TATGGGTGTT TCATAAGAGT CTTAACAACT    4380

GCAAGCGAAA GAAGGTCTGT TACAGTAGTC TTCTTCCCAG TTGCTTCCAT GATTGGCTCA    4440

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TAAGTTTCCA CGTCTTCTTT GTGGACACGA CCGTTTGCAC CTGAGCCAGA AACGTCGTAG    4860
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988

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TCAGCCATGA CCTCTCCAAT TCTATTTATG ATACAAAGGG CGTCAAAAGC GACTGAAAAA    4980

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989

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TTTTTCACAA ACTTTTTAGC ATTTGGATTT TGCTAAAGAT TCAAATCTCT TCATAATCAC      7320

AGTTAAACGC CAACGGTAGA GCGCCCCGCT CACAATCAAA CTAATAATCA AGCCGATCCA      7380

GTAAGAATAA GCTCCAAAAT CTGTTAGGGA ATCAAATAGC GTAnCACAGG GATTGCTACG      7440

CCCCAATAAC CAAGCAAACC AAGGTAAAAA GGAATAACTG TATCCTTATA CCCCCGCAAA      7500

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AGACCAATAT AGGTTTTCGC ATCATCAAAT CGCTTGGCTC CCACTTCATA GGAAACGACA      7740

ATAGCCATAG CCGATGAGAT ACTCATAGGA AAGGCGTACA TAAGACTTGA AAAGTTCATA      7800

GCTGACTGGT GACTAGCTAT AATCAAGGGC GAAAACTTAG CCATAATCAA GCCAACCACT      7860

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TAGTTAAATC CGCTATTGAG AGGGAGTAAC AAAAGCATGA GGTACATGGA CAGTTTGGTC      8160

AAGCCCAGCG AATCCAGCAA GGAACGAATG ACGCTAAAGA GCAACAAGGG GATAATCCCG      8220

ATAGATAAAA ACCAAAGATA GCGAACCGCT ACTGCCGCTA CTGCTGCTTC TAACCCAATA      8280

TGATTCAAGA TTATTGGTGC CAAGAAAAGT ACCATCCCCA GCAAGACCAC AGATAGGCCC      8340

AAGGCCAAAT AAATAAATTG GTAAAAATCA GACGCAACTT CTTCCTTTTT GCCTCGACCA      8400
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                                      990
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GGATTCCAGA TACTGGTTGC CATAGATACA CCAGCCAAGT CCATAGTGTT GTATTGACCT      8520

GTCATTGCAG TATCAACAAA AGAGGCAGAA TAATTGGCAA ATTGGTAGAT CAGGATTGGG      8580

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GATTCATCTT AGCATTGCTA CCTTGTGTTA AAAGAAGTGC TTCTGTCTTA GAGAAATGCT      9420

GTGGCGCTAC TTCTGCTGTG ACTTCTGCAC CTAACCCCTG AGCAAACTCC ACTACTTTAA      9480

CACTTTCTTC CTTAGACAAA TGCTGGATGT GAACATGGGC TTTAGTTGCA TAGGCAATCA      9540

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CACCAGTATG AATGTCTTCT TTATGTGTTT GACCAGGTTC ACGGAAATGA ACATGAATAT     10020

CGACCAAGCC AGGAGCAACC ACAAGACCAG TAGCATCAAT CGTTTCTGCT CCTTCTTCCG     10080

TGATCTCAGA CGCAATTTTG ATAATTTTCC CATCTTGAAC TAAGACATCA CAAACTTGAT     10140

CCAAACCAGA CTTGGGATCC ATTACACGAC CATTTTTGAT TAGTAGCATC TGCTTTCTCC     10200
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991

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TTTATTCATA GAAATCAACT TGGGTATCCA ACAATTTATC CCCATCATAA ACAAACTTGG    10260

CTGAAAAGAA GGGTTTATCC TCTAAAAGCC ACTCAACAAA GGTGTGGTCA CCTTCCCAAG    10320

TCGGCTTGCT CAAAACCTCA TCATAGGGAA CCCATTCTAG CGTCCCCTCA TTGCAGTCAA    10380

TCAAGTCGCC CTCAAACTCC GTCACCTTAA AAACATAGGT GTACCAGTCT AAATCTGGTG    10440

TAAATTCAGG AAAAGTGATG ACACCTTTTA GAACTGGCTT GGCTTTGAGC CCTGTTTCTT    10500

CAAGGATTTC ACGCGCCGCG CATTCCTGGG GCGTCTCTCC TCTCTCTAGC TTACCACCCA    10560

CACCAATCCA TTTCCCTTCA TGGACATCAT TGGGTTTCTT ATTACGATGG AGCATGAGCA    10620

GTTCTTTCCC ATTATCAATG TAGCAAATCG TCGCTAACTG AGGCATATTT TCTCCTTATC    10680

TAAGCCAATC GATTGGCTCT TGTCCTGTCT CTTTTAAGAA TGCATTGGCC TTGGAAAAGG    10740

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CATCTGACAA TTCTTTCAAG ATATTTTGCA AGGATGGTGG AGCTGGGATA GAGTCAGGTA    11100

CAGAAAAACT CAAGCCCTGC GCTTGACCTG GTCCGTGATA GGGGTCTTGC CCTAGAATTA    11160

CCACCTTAAC TTCTTCAAGC AGTGTTGTCA AGAGAGCCTG AAAAACCTTT TCCTTGGGTG    11220

GATAAATAAT CCCCTGAGAA TAGACCTGCT CCATAAACTG ATTGATTTTC CCGAAATAAC    11280

CCTCAGGTAA TTGCGCCTTA ATCAAAGCAT GCCAAGACGA GTGTTCCATA GCCGACTCGG    11340
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(2) INFORMATION FOR SEQ ID NO: 148:

    (i) SEQUENCE CHARACTERISTICS:
       (A) LENGTH: 12127 base pairs
       (B) TYPE: nucleic acid
       (C) STRANDEDNESS: double
       (D) TOPOLOGY: linear


    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 148:

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AAAAAATAGA CTTGTTAGAC TATAAATGTA GTAAGCCTAC ACAAGAAAAA TACATAGAGA      60

TAAAGGTGAT TATTATGAAA TTCAAAAAAA TGCTTACTCT TGCAGCCATT GGCTTATCAG     120

GATTTGGGCT TGTTGCCTGT GGCAATCAGT CAGCTGCTTC CAAACAGTCA GCTTCAGGAA     180

CGATTGAGGT GATTTCACGA GAAAATGGCT CTGGGACACG GGGTGCCTTC ACAGAAATCA     240
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992

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CAGGGATTCT CAAAAAAGAC GGTGATAAAA AAATTGACAA CACTGCCAAA ACAGCTGTGA       300

TTCAAAATAG TACAGAAGGT GTTCTCTCAG CAGTTCAAGG GAATGCTAAT GCTATCGGCT       360

ACATCTCCTT GGGATCTTTA ACGAAATCTG TCAAGGCTTT AGAGATTGAT GGTGTCAAGG       420

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GGTCTTCTAA TCTTTCCAAG CTAGGTCAAG ATTTTATCAG CTTTATCCAC TCCAAACAAG       540

GTCAACAAGT GGTCACAGAT AATAAATTTA TTGAAGCTAA AACCGAAACC ACGGAATATA       600

CAAGCCAACA CTTATCAGGC AAGTTGTCTG TTGTAGGTTC CACTTCAGTA TCTTCTTTAA       660

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ACGGTATTGC TGTTGTGGTC AATAATGACA ATAAGGCAAG CCAAGTCAGT ATGGCTGAAC       900

TTGCAGACGT TTTTAGTGGC AAATTAACCA CCTGGGACAA GATTAAATAA AATGTTTGCT       960

CCATAAATCT CTAAAGAGAT GCAGACGTTT CATCGTACAA TAAGATAAAG AAGGCAAGTA      1020

GGGAGGTGTC GTATCTCCCT TACTTTCTTC ACTAGAAAGG ACAAGATGTG ACAAAACAAG      1080

CCTTCAAAGA AGCAGTTTTT AGGGCAATTT TTTTCATGAG TGCAACAGTA GCTGTTGTAG      1140

CTATTTTGCT AATCTGTTTC TTTATTTTTA GTAATGGCTT ACCTTTCATA GCTAACTACG      1200

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TCTCTCTTTT TAATCATTGG TTTTATCCTC ATCAAAGGCT TACCTCATCT AAGTCTATCC      2040
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993

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CTCTTTTCTT GGACTTATAC TTCTGAGAAC ATTTCCCTTA TGCCAGCGAT TATTTCCACC      2100

GTTATTCTGG TCTTTGGTGC TCTTCTTTTA GCCTTGCCCA TAGGGATTTT TGCTGGTTTT      2160

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GATACCTTAT CTGGGATTCC TTCCATTGTT TTTGGTCTGT TTGGCATGCT CTTCTTTGTA      2280

GTCTTCTTAG GTTTTCAATA CTCTCTGTTA TCAGGAATCT TAACCTCAGT TATCATGGTG      2340

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ATCAACCAAG GTCAAAGCGC TATCGAATTG ACCTGTGCCC GTTTGTTGGC CTTGCAGCAG      3720

CCACAAGTGT CTGACCTTCG ATTTGTGATT AGCATCATGT CTTCTTGTTC AGACCTTGAA      3780
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994

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CGTATGGGAG ACCATATGGC AGGCATTGCC AAAGCTGTTT TGCAACTAAA AGAAAATCAA     3840

CTAGCCCCTG ACGAAGAACA GTTACACCAA ATGGGTAAAT TATCCCTCAG CATGCTAGCC     3900

GATTTATTGG TTGCCTTTCC TTTGCACCAA GCCTCAAAAG CTATTAGTAT TGCTCAAAAA     3960

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AATTAATTGA CGGATACTTA ATTCAGACTC ATCACCACAA AATTCTGAAC GACTGATTI r    5160

TTTAGCCAAA CGTAATCTTT TAATTTTTTC GCCAAACTCT CGCAACCTAC AAGAACTTCC     5220

TGAGTTGTTT ACCTCTATTA TAAGCATATA CTGAATCAAA CTATCTATCA GATTTCTTCT     5280

CACTTTAACT AAAGACTAAG AGTTTATCCC TTCGTCTCGG TTTTTGTGTA TTTTTCCACC     5340

ATACCCCAGT AATGCAAGTG CAAAATCCCC TAGAATATGA TAGAATAAGA GAAAGAACTC     5400

TATCAAGGAG GAAATCATGG AAAAACAAAC CGTCGCCGTC TTGGGGCCTG GTTCTTGGGG     5460

AACCGCCCTT TCACAAGTCT TAAATGACAA TGGACACGAG GTACGTATTT GGGGAAATCT     5520

TCCCGAGCAA ATCAATGAAA TTAATACACA CCATACTAAT AAGCACTACT TTAAAGATGT     5580
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995

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CGTTCTAGAC GAAAATATCA TTGCCTACAC CGACTTAGCA GAAACATTGA AAGATGTGGA      5640

TGCGATTTTG TTTGTTGTCC CAACAAAAGT GACACGACTT GTTGCCCAGC AAGTTGCACA      5700

AACCTTGGAC CATAAGGTTA TCATCATGCA CGCATCAAAG GGATTAGAAC CTGATAGCCA      5760

TAAACGATTA TCAACCATTC TTGAAGAAGA AATTCCTGAA CATCTCCGTA GTGATATCGT      5820

CGTTGTTTCA GGGCCTAGTC ATGCAGAAGA GACCATTGTG CGTGACCTAA CTTTAATAAC      5880

TGCTGCTTCT AAAGATTTAC AAACAGCTCA ATACGTTCAG AAGCTATTTA GTAATCACTA      5940

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CGGAACCAAT ATCAAAGATG CCATTTATGA CATCATGAAC AATGAATTTA AAGCAGAAAA      6420

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CATCCCTGCT GCTGGACTAG GAACTCGATT TTTACCAGCA ACCAAGGCCC TTGCCAAAGA      6540

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GCTAGTTGAT AAAACAACTG ACATGCGTCT GCATTTTATC CGCCAAACTC ATCCACGCGG      6780

TCTCGGAGAT GCTGTTTTGC AAGCCAAGGC TTTCGTCGGA AATGAACCTT TTGTCGTTAT      6840

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AGGAAATGAA ATTCAGCTGA CAGATGCAAT CGACACCCTC AATAAAACAC AACGTGTATT      7200

TGCTCGTGAG TTCAAAGGGG CTCGTTACGA TGTCGGAGAC AAGTTTGGCT TCATGAAAAC      7260

ATCCATCGAC TACGCCCTCA AACACCCACA AGTCAAAGAT GATTTGAAGA ATTACCTCAT      7320
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996

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CCAACTTGGA AAAGAATTGA CTGAGAAGGA ATAACAAAAT CATTTATATA AAGATTAGCC        7380

ACACATAAAT TAAGTAAATT CTCTACTTGA ATCTACCTAT TTAATAAAAA CTAATGAAAA        7440

CGCTATACTT GTATTGTTT TTTCATTAAA ATAAGAGTAG AATAAATTAG TATAGTAAAA        7500

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GTGGAAGCTA TTAATAAAAA TATAATAAGG GAGAAAGATA GGTGTAATTT TAATTTTAAA        7740

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AAACAATAAA AAAGTAATCA TTTCATCAGT TGCAGTTGGT GTTGTATTGG TATTAGGGTT        7860

TGGATGGTAT TCATATAACC AACAACAAGC AGAACAACAA GCAAAAATTG TACAATTAGA        7920

AAAAGATAGC AAATCAGACA AGAACAAGT TGATAAACTA TTTGAATCAT TTGATGCATC         7980

TTCAGATGAA TCTATTTCTA AATTAAAAGA ACTATCTGAA ACTTCACTTA AAACCGATGC        8040

AGGTAAAGAC TATCTTAATA ACAAAGTCAA AGAATCATCT AAAGCAATTG TAGATTTTCA        8100

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AACTCTTGAA ACAAATGTAA AAGAAATTAC AAAACAAATT GATTTTATCA AAAAAGTTGA        8220

TGAAACTTTT AAACAAGAGA ATTTGGAAGA AACTCTTAAA TCTCTAAATG ATCTTGTTGA        8280

TAAATATCAA AAACAAATCG AACTTTTGAA GAAAGAAGAA GAAAAAGCTG CTGAAAAAGC        8340

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GTCTTATAAT GGATCTTCCA ATTCAAATGT AGATTATAGT TCATCTGAAC AAACTAATGG        8460

ATATTCAAAT AATTATGGCG GTCAAGATTA TTCTGGTTCA GGAGATAGTT CAACAAATGG        8520

TGGATCATCA GAACAATATT CATCTAGCAA TTCAAACAGC GGAGCAAATA ATGTCTACAG        8580

ATATAAAGGC ACTGGTGCTG ACGGCTATCA AAGATACTAC TACAAAGATC ATAATAATGG        8640

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CTCAAAGCAG TGCTTTGAGC AACCTGCGGC TAGCTTCCTA GTTTGCTCTT TGATTTTCAT        9000

TGAGTATTAG TCGTCACAAT CCCATTCCCT TGTAGAAAAG CAAAATGGCG AGTCCTACGA        9060

ACAAGACTAC CGCTCCTAAT CTCTGGCTGG TGTTATACAT CCGTTTTTCT CCTCTAACTG        9120
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997

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GAAAGATAAC TGCTAGAAAT GCGCCACCAA CTGCACCACC GATATGGCCT GCTAGGCTGA    9180

TTCCTGGAAT CAGAACACTT CCAATAATGT TAACCACAAA AAGTGTCAGA TAGGATTGCC    9240

CTAGCTGTTG GATATAAGGA TTGCGAGTTG CATAGCGAAG AACAATAATC GCGGCAAATA    9300

GCCCATAAAG AGAGGTAGAG GCGCCTGCTG CTAAGGATTT AGGACTAAAT ACAAAAACAA    9360

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TCTCCTCTAC CTGCCTTCCA AGATAATAAA GTGAAAGCAT ATTAACAATG AAATGTTCCC    9480

ACCCAATATG AACAAAAATG GCAGACAAGA GACGCCAAAC CTGCTCGGGA AAGAGGCGAA    9540

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CTGCAGTGAC CAACATTAGT AAAAATACCA AGGCCGTCAC TAAGAGGAAG AAACTCGTCA    9660

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AATTCCGATT TCATAGACAA GCCCTCTATT CTGCTGCCTT CTTTTTCAGG AAACTAGACA    10260

CCGCAGCCAC CCCAATAGCT AAGACTTCTT CCTTAGGACT CATTTGAGGG TGATGAAGAG    10320

CGTAGGGACT ATCGATACCT AGCCAAAACA TCACGCCATC AAACCTTTGAA AGGAGATAAC   10380

CAAAGTCCTC GCCTGTCATA GCAGGTTCGA TATCAATCAA CTCGATTCCG TCTTTTTCGT    10440

CAAAGAAGTC CATCAGTTCA CGCGCCAAGG CTGGATTGTT CTCAACAGGT AGGTATCCAC    10500

CTTGTTTGAG TTCCACTTCG ACTTCCATAT CAAAGGCAGC TGCAACCCCT TCTGCAACTG    10560

TTTTTACCCT CTTTTGCACC AAAGAGACTCA TGTCCTGTGT CAAGGCACGA ATAGTTCCAT   10620

GTAAAAAAGC TGTGTCTGTG ATGACATTGT TGGTGGTTCC AGCTTGAAAA ACGCCGAAGG    10680

TCACCACTGC TCCCTCGATT GGGTTGACAT TGCGGCTAAC AACTGACTGC ACTTGGGTCA    10740

CAAAGTAACT AGCCGCCACC AAGGCGTCAT TGGCTTCATG AGGAAAAGCT GCGTGGCCAC    10800

CTTTGCCTTT GAAACGGATC TTCACCTCGC AAGTTCCTGC AAAGAGTGTA TGAGTATTAG    10860
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998

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TCGCAATCTG GCCGACTTTC AAATCTGGAC GAACATGGAG ACCATAGAAT TGATCTGGCA        10920

ACCAATCTCC AAAAGCACCG TCCTCATACA TGAGCATACC ACCAGCTTCA TTTTCTTCAG        10980

CAGGCTGAAA TAGAAAGAGC AGATTATTCT TGGGTTGCTC CTCAAGGGCG CGCTCAAGAC        11040

AGCCTAAGGC AATGGTCATA TGAAAATCAT GGACACAGGC ATGCATGCGA CCTTGGTGTT        11100

GAGAAGCAAA AGGTAGACCT GTTTGTTCGA CGATAGGCAG GCCATCAATA TCTGTCCGCC        11160

AACCAATGGT TCGCTCCGGC TGACTTCCCT GCAGGTAGAC CAAAATCCCT GTCCGCCAAG        11220

TACGAATTTG AACAAAATCC TTGCCCGTAG TCAATTTCTC AATCACATCC AGCAAATAAG        11280

CCTGAGTCTT GAACTCCTCC AAGCCAATCT CTGGAATCTG GTGTAAATCT CGTCTAGTCT        11340

GAATCAAATC TAACATCTAT CTGTCCTCCG ATATAGCAGA AAGAGGCTGG AAAAAGGGTT        11400

CCGCCTCTTT TTTACTTTTA CAATTACAAG GTACGAAGCG CATCCTCTAG CGCTGTTTTT        11460

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TCCACCTGGT CACGGATAAT CGCACCTGGC TCGATACGAG CGTTGATAGC ACGCTTATCT        11880

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ACAACAGAGC TAGGCACAGC AGTTGCGAGT TGCCCCTCAA AGGTTACTTT GACACTGGTT        12060

TTCTTTTCAG CATTGGCGAT AAATTGGATA ATTTCTTGAG CGTTCATTTT TGTAGCAGTC        12120

ATAGGTG                                                                 12127
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(2) INFORMATION FOR SEQ ID NO: 149:

        (i) SEQUENCE CHARACTERISTICS:
            (A) LENGTH: 12566 base pairs
            (B) TYPE: nucleic acid
            (C) STRANDEDNESS: double
            (D) TOPOLOGY: linear


        (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 149:

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CCATCCTTCT GTTGATGTGA CAGGAATGAT GATAAATCAA CCAGTAGCTA GTCGCGAAGA          60

GGTGACAGAG GCTTTGAGTC ACTTGGCGGT AGAGCACAAT AGTCTCATTG CTCGTCGAAT         120
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999

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CGTTGAGCCA AATGAAGCTG GAGAAACACG CTTTACCTAT GCCACTTATG GTGAGGGAAA      180

GCTTCCAGAA GGTCTGACCA TTTCCTCCAA GGAGAGTGCA GAAACGAGTG ATTTATTAGG      240

GTCTTACTTG ATTGTATCAG GAAGTTTGGA TGGAGTGAGC TTACAGACCA CCTTGAAAGA      300

GCTTGGTTAT CAAGGCTTTG TTTCGAATGG AGAAGATCCA TTTTCGATAG TCTTACTATT      360

GACGGCCACC CCTATGGTGC TACTGAGTTT AGCTATTTTT CTGCTGACCT TTATGAGTCT      420

GACCCTGATT TATCGGATCA AATCCCTTCG TCAGGCAGGG ATTCGCTTAA TAGCTGGTGA      480

GAGCTTGTTT GGAGTTGCTC TCAGACCAGT GTTAGAAGAT GTGAGACAGC TTATCTGCTC      540

AGTGCTGGTA TCCAGTCTTT TGGGATTGGG GATTCTCTGG TATCAAGGTG CCTTGTTTAT      600

GGCAACGGTG CAACTGGTCA TCATTGCTCT TCTACTTTAT GGATTGACCT TGGCAGGGAT      660

TTCTACCTTA CTAAGTGTCG TCTATCTACT TGGTTTACAG GAAAATAGTC TGGTGGATCT      720

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GGAAATGGAG AGAGCTAGCA ATAAATGGAG CCAGTCCTCA GACCGTTACC GTCTATCCTT      900

TGGTTGGTCT AGTGCATTTG CCGATGAAGA AGGAACGCGT AAGGATAATC GTGAGTGGCA      960

GACATTTACT GAAGAACGGT TAGCCAATAC AGACTCTTTT TATATTATGA GCAATGTTGA     1020

CAATTTCTCA GATGGAGCAG AAGTGGACCT AGATGGCAAT CGTCTCAGTG ACTACACACC     1080

GTCAGGGAAT GTTATCTATG TCTCACCGCG CTATCTGATA GAAGAAAAGA TTACCGTTTC     1140

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TGAGAGCTTG CGAGAGCAGT CTGTCTACTA CCAAGGATTG TTTACAGATT ACCTGCAAAA     1260

CTTTTCATCT GAAAGTGTAG AAGTGACGAG TCAGAAACAC TACCTCCCAC AGGTAAGGCT     1320

AGCTTTTACA GAAACAGGAC AGGAACGTTT CCTCTATAAT GATGGGTACA AGACAACACG     1380

CCAGTACCTA AAAGATCCGA TTATTGTAGT TCTAACGCCG CAAGCGACTG GAACAAGACC     1440

TGTTGCAGGG ATGTTGTGGG GAACTACGGC TAATAGTGCC TTGAAACTAG ATCGATATGG     1500

AGACAGCATC ACAGCTCTAA AAGAGAAAGG TCTGTATCAC AAGGTTTCTT ACTTGGTAAA     1560

AAGCCAGCTA TTTTTTGCCA AGGTACTAAA TGACAAACGG GTGGAGTTTT ACTCTCTCCT     1620

TATTGGGACG ATTTTGACCC TGTCTACGGC TATCTTGTTA TTTGATTCCA TGAATCTTCT     1680

CTATTTTGAG CAGTTCAGAC GGGAACTTAT GATTAAACGT CTTGCTGGTA TGACAATCTA     1740

TGAGCTTCAT GGCAAGTATT TACTGGCGCA AGGAGGAGTT CTCTTGCTTG GCCTAGTCCT     1800

ATCTAGTATT TTGACAAGAG ATGGTTTGAT TAGCGCTCTA GTTGTAGCTT TGTTTACGCT     1860
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TAACGCCCTC TTGATTTTAG TAAGGCAGGA CAAAAAGAA GAAGCTGGTA GCATGGCAGT    1920

ATTGAAAGGA AAATAAGATG ATTGATATTC AAGGATTGGA AAAGAAATTT AATGACCGCG    1980

CGATTTTCTC TGGTTTGAAT CTCAAGCTGG AGAAGGGCAA GGTTTATGCC TTAATCGGAA    2040

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TGGTGCCTTG ACAGAATTTT TGGCTGAGCG TGCAGCCCAA GTCATGGCTT TTGAGATTGA    3240

CCACCGTTTG GTGCCAATTT TGGCAGATAC CCTGCGTGAT TTTGATAATG TGACCGTAGT    3300

TAACGAAGAT ATTCTCAAGG TTGATTTGGC GCAACATATC CAGAATTTTA AAAATCCTGA    3360

CCTGCCAATC AAGGTAGTGG CTAATTTGCC TTACTACATC ACGACGCCTA TTCTCATGCA    3420

CTTGATTGAG AGTGGCATTC CTTTTTGTGA GTTTGTGGTC ATGATGCAGA AAGAAGTAGC    3480

GGACCGCATT TCAGCCCAGC CTAACACCAA GGCTTACGGT AGCTTGTCTA TCGCCGTGCA    3540

GTATTACATG ACAGCCAAGG TTGCCTTTAT CGTGCCTCGT ACGGTCTTTG TGCCAGCGCC    3600

AAATGTGGAT TCAGCCATCT TGAAAATGGT GCGTCGTCCA GAGCCAGCCG TAGCAGTAGA    3660
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1001

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AGATGAGAAC TTTTTCTTTA AGGTTTCCAA GGCTAGTTTT ACCCATCGCC GCAAGACCTT       3720

GTGGAATAAC TTGACAGGTT ACTTTGGTAA GACTGAAGAG GTCAAGGACA AGCTGACCAA       3780

GGCTTTGGAC CAGGCAGGCT TGTCACCAAG TGTGCGTGGG GAAGCTCTCA GCTTGGCAGA       3840

ATTTGCCGGT CTAGCAGACG CACTTAAAGG GCAAGGACTC TAAGATGCAG GGACAAATCA       3900

TTAAAGCCTT GGCAGGTTTC TACTATGTGG AGAGTGATGG CCAGGTTTAT CAAACACGCG       3960

CGCGTGGGAA TTTCCGTAAA AAAGGCCATA CCCCTTATGT TGGGGACTGG GTAGATTTCT       4020

CTGCCGAGGA AAATTCAGAA GGCTATATCC TCAAAATTCA CGAACGGAAA AACAGTCTGG       4080

TTCGTCCGCC TATTGTCAAT ATCGATCAAG CTGTAGTAAT CATGTCCGTC AAGGAACCTG       4140

ATTTTAACAG CAATTTGCTG GATCGTTTCT TGGTTCTTTT GGAGCACAAG GGCATCCATC       4200

CCATTGTCTA TATTTCCAAA ATGGATTTGT TGGAAGATAG GGGAGAACTG GATTTTTACC       4260

AGCAGACCTA TGGTGACATC GGCTATGACT TTGTGACCAG TAAAGAGGAA CTCCTGTCTT       4320

TGTTAACAGG CAAGGTTACG GTCTTTATGG GGCAGACAGG TGTTGGGAAG TCAACTCTTC       4380

TCAATAAAAT CGCACCAGAC CTCAATCTTG AAACGGGAGA AATTTCAGAC AGTCTAGGTC       4440

GCGGTCGCCA TACCACTCGA GCTGTTAGTT TTTACAATCT CAACGGGGGT AAAATCGCAG       4500

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AACTTTGAAA TCGAAGTGGA TGGTGGGATT GATGACCAAA CTATTGCTCA AGCCAAAGAA       5340

GCCGGTGCGA CTGTTTTTGT AGCAGGTTCC TATGTCTTTA AGGGAGAAGT CAATGAGCGA       5400
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1002

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GTACAAACTC TCAGAAAACA ACTGGACTAG GGTTGCAGTT TTTGCAGGCG GAAACCGCGG    5460

TCATTATCGG ACAGATTTTG ATGCTTTTGT TGGGGTGGAT CGAGGCTCGC TCTGGGTCTT    5520

GGAAGAAGAC TTACCTCTTG CTCTAGCAGT CGGAGATTTT GATTCTGTGA CGGAAGAAGA    5580

GCGACAGGTG ATTCAAAAAG GTGCCCAGTA TTTTGTCCAA GCACGACCAG AAAAGGATGA    5640

TACAGATCTG GAATTGGCTC TCTTAACCAT CTTTGAACAA AATCCTCAGG CTCAGGTCAC    5700

TATTTTCGGT GCCTTGGGTG GCCGTATTGA CCATATGTTG GCCAATGTCT TTCTGCCTAG    5760

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AAGAAGCCTA TGAGACAGGT GACAAGGATG AGATTGAACG CTGTCGTAAG TCACTCCTAG    6840

CAAGCGTCAA GCGCTTTGCT AGGGATATTA GGAACAAGTA CATAGCACCA CCTCGGACGA    6900

CCAATTTTGG AGTTTTGTTT GTTCCGACAG AAGGTCTCTA CTCAGAAATC GTCCGCAATC    6960

CGGTCTTCTT TGATGATTTG AGACGGGAAG AACAGATTAT TGTTGCAGGA CCAAGTACCC    7020

TATCAGCCCT TCTTAACTCC CTATCAGTTG GTTTCAAGAC CCTTAATATC CAAAAGAGTG    7080

CCGACCATAT CAGCAAGACT CTTGCCAGTG TCAAGACCGA GTTTGGCAAG TTTGGTGGTA    7140

TTCTGGTCAA GGCACAAAAA CATCTCCAAC ATGCCTCTGG CAATATTGAT GAATTATTAA    7200
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1003

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ACCGTCGTAC CATAGCTATC GAGCGGACGC TCCGTCACAT TGAGTTGTCA GAAGGTGAGC    7260

CTGCGCTTGA TCTACTCCAT TTTCAAGAAA ATGAGGAAGA ATATGAAGAT TAGTCACATG    7320

AAAAAAGATG AGTTATTTGA AGGCTTTTAC CTAATCAAAT CAGCTGACCT GAGGCAAACT    7380

CGAGCTGGGA AAAACTACCT AGCCTTTACC TTCCAAGATG ATAGTGGCGA GATTGATGGG    7440

AAGCTCTGGG ATGCCCAACC TCATAACATT GAGGCCTTTA CCGCAGGTAA GGTTGTCCAC    7500

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CAACGGATTG TCCGAAATCT CTACACCAAG TATGATAAGG AATTCTACTC CTATCCAGCT    7740

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CTAGTCTCAA TACTTTTGCT GAAAAGTATG AGTCTGCTAA ATCATCCATC TCAGAAGATA    8640

TCGTCATTAT CAAACGCGCC TTTGAGGAAA TTGAAATCGG TCATATCCAG ACAGTGACTG    8700

GGGCTGGCGG AGGTGTCATC TTCACACCGT CTATTTCGAG TCAGGATGCT AAGGAAATGG    8760

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ATCTGTCTGA TTTGCTTAGC ACACCAGCCA TCTTGAAAAA TATTGGTCGT ATTATTGCCA    8880

AAAGCTTTAT GGACCAAAAA ATTGACGCGG TTATGACCGT AGCAACTAAG GGTGTGCCAC    8940
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                                   1004
TTGCAAATGC AGTTGCCAAT GTCCTCAATG TCTCTTTTGT CATTGTGCGC CGTGACCTGA     9000

AAATTACCGA AGGTTCAACT GTTAGCGTCA ACTATGTTTC AGGTTCAAGT GGTGACCGTA     9060

TCGAGAAAAT GTTCCTTTCA AAACGTAGTC TTAAGGCAGG CAGCCGTGTC TTGATTGTGG     9120

ATGACTTCTT GAAAGGTGGC GGAACGGTCA ATGGTATGAT TAGTCTCTTG CGCGAGTTCG     9180

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AAGAAGAAGG TTGTGGTGTG GACTGCTCTA GTTATGTAGA GCTTTTGATG AGCCATAAAC     9660

TGGACTTTCT GGGTTCTGAG ATTATGTTCT CTTCCAACAA CACGCCAGAC AAGGAATACG     9720

CCTATGCACG TGAATTGGGT GCGACCATTA ACTTGGATGC CTTTGAAGAT ATTGAACATC     9780

TGGAGAGAGT AGCAGGCATT CCAGAAATCA TCTCTTGTCG TTATAATCCT GGAGGCGTTT     9840

TTGAACTGGG GACAGACATT ATGGACAATC CTGGGGAGGC TAAGTTTGGC ATGACCAAGG     9900

ACCAGCTCTT TGAAGCCTTT GCTATCTTGA AGGAAAAAGG AGCCAAGACT TTTGGGATTC     9960

ACTCCTTCCT AGCGTCCAAT ACCGTGACCC ATCTCTATTA TCCAGAGTTG GCTCGTCAGC    10020

TCTTTGAACT GGCTGTTGAA ATCAAGGAAA AGTTGGGCAT TTCGCTAGAC TTTATCAATC    10080

TTTCTGGCGG TATTGGTGTT AATTATCATC CAGACCAGGA GCCGAACGAT ATCGCCTTGA    10140

TTGGTGAGGG AGTTCGTAAG GTGTATGAAG AGGTTCTTAC GTCAGCAGGT CTTGGTCAGG    10200

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CAGTTAATCG CGAACTGCCT CATACAGAAA TCGGTGATTT GCTGGTCATT CATGATACAG    10500

GTGCCCACGG ATTTTCAATG GGCTACCAGT ATAATGCCAA ATTACGTTCT GCGGAAATCC    10560

TCTATACCGA AGAAGGTAAA GCCCGTCAAA TCCGCCGTGC AGAGCGCCCT GAGGACTATT    10620

TTGCAACCTT ATATGGCTTC GATTTTGAAG AATAATCTGA TAATAGATTG AAAATGAAAT    10680

TGAAAAACAG ATTGCTTTCT AAAAAATAGG CAAAAATCTT GTTTTTCCTT CAAGTCGTGA    10740
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1005

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TATAATAAAA CTATAAAACG TTTTCAAGGA AGGTAACGAT ATGTCTGAAG AAACAATTGA    10800

TTATGGACAA GTGACAGGAA TGGTGCATTC GACAGAAAGC TTTGGGTCAG TAGATGGGCC    10860

TGGTATTCGC TTTATTGTCT TTTTGCAGGG CTGTCACATG CGTTGCCAGT ATTGCCACAA    10920

CCCAGACACT TGGGCTATGG AGTCCAATAA GTCACGTGAA CGGACGGTAG ATGATGTCTT    10980

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ACAACTCATG GATACCGAAA GTTATCAAGA TTATATGAAA CGTGTACATG GATAGAAAAG    11580

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AGGAATGCCT AGGTAGCTTG CTTGAGCAAC CCCTTCAGTA TGTTGGGCAG CAAAGTAGAT    12120

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CTTTTCAGAG TGAAGCGTTG CCTTCCATGA TTGGTAGATA CCAAGTGGTA AGATAATCAA    12360

GCGTACGATA ATGGTTACGA TAATGATAGC GACACCAAAG CCTAGACCTT TATCAGTAGC    12420

GAAGTACTTG ATGGCTTCAG CCATAGGCGC TCCGATCGTA TTCCAAATAA ATCCTGTTGG    12480
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                                     1006
CTGACCTGTG GTTTTATCGA CATTGACACA GCCAGTCAAG ACAAGCAACA TAGCCACTCC    12540

CATAGCCGAG AGTGCAAAAT CGGGGT                                         12566
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(2) INFORMATION FOR SEQ ID NO: 150:

     (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 5238 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear


     (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 150:

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TGACACTCTG TAGGATTGTC GTTAATTGAT TGCTCGTACT CTCTACAATA ACCACCAAAG      60

TAAAAACGAC ATAGAAAGAT AGCATCAGCT GTAGCCATAG CGCCTTTGAC ACCTTCTGGA     120

TGATTATGAG TTACCTCTGC AGAAAGACTC GTAAGTCCTC TAGATGATGG CCATATACCA     180

GTTTTCGCAT AAAAACCACA GTCCATGATC CAAGCACATG GAGAAATACG CATAGCTGAT     240

CCATTCCCAA AGCTATTATA AGGCTCACGG TTATCGCTGT TTAGCCATGC ATTAAACCGA     300

GCACCGTAAT CAGCATTCGG ATACATTCTG CCATATTTCT TCATCGCGTC AATGAAGTCA     360

TCTTTTTGTC CACCATTCAT AATTGCTTCT GCAACAGCAC AGGTCATAAC CGTGTCATCT     420

GTAAAAAAGC AGTCCTTCCG AAATAAAGGA AAGTCCTTTG TTTTGATATT GTTCCATTCG     480

TAAACAGAAC CGACAATATC TCCAATAATT GCTCCAAGCA TCAGATTCCT CCTTGTTCAT     540

TTTGATGCTT TTTATATTGG TTATCTACCA TATTTATTTT AGAAAATAAC ATCCTGTTGG     600

ATTTTAAAAA TTTCATTTTT TTCAAAATAG GGTTTTACCA TTTCTTTCCA CCTAGCTCTA     660

TGAAAATTGA TTGATTTTAA AGGAGATAGG CCATAATTTC CCAATGCATA ACCATCATTT     720

ACTTCAACAA CAAGTGTTCT GCCATCGCGA GTAACACCGA TATCTAGTCC ATAAGCTATT     780

GGCGCATCTT TCCAACATGA TATCGCTTCA TCAATTACAC TTGCATCAAA TTGTGCATGA     840

TAATCACCTG TATAGGGTCG AACATCTAAT ACGCGACCAT CTAACACAAA ACAACGCCAT     900

TCAGCTATGA ATTCTACAAC CTCACTAATC CATATAGGAT AGTCGAAAGG TAGACCAATA     960

CCTATTAAAT CATGGGTTCC ATTAACAACT CTTCCAGTAA AGACTTTTGA ACCAGCTTTA    1020

GGCTTAATAA ATTTTCCCCA ATTATCAGGT ATATTCACAA TCTCTCCTAA AATACCAGCA    1080

TAAATCTTTC GACCATAAAA CTCTTTAAGC TCAATAGGAT AGTCATGAAC CGGAACGTTT    1140

AAGCCCATCA TTTTTAGTAA TGCTCTAGTC TCCATTATAT AATCTACAAC TATATCTTCA    1200

CTTGTTAACT CTTTTATTTC AGAAAAAGAT TGATATAAAA TAACTTCTTC TCCTTGTAAG    1260

TAGGCACCTA CTTGAGCATT GTATTTATTA ATTGAAACCT CACTTGGTAA TTTACTTTGT    1320
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1007

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CTAATATAAA CAACCATTTC ATCACTCCTA TATCACTAGT GTTACACCAA TTTGTAAAAA      1380

ATAATAGCAA TTTTGCTCTT ATTTTTTTGA GTAAATAGCC CCCATAATAT CATCGAAATA      1440

ATCAACGGTA TTTAGGAGTA ATTCAATAAC CTGGGACTTT GTTAGTCGCA TTCCCCTTCT      1500

ATCTCTAGCA TCTTCTACTA AATTTTCAAG TTTCTCTAGA TTTTTATCAT CCAAGCTAAT      1560

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TAACACTAGT GTCAACTGGC TTTTATAATA CATTAGTTTA AAAGTGGAGA GGATTTTTAA      1680

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AATCTCTTTC CAAATAATGT TTACATTTTC CTCAGGATCG AACATAAATT TAGATAAAGG      2280

AACAATATTT CCGTTAAAAA TAATTTCCAT ATAATCCGGT ATGTTTTTAG GATTAAAATA      2340

CTCCACTTCA AAACCATCTT CTGTTTCCAG AGTGTATCCC GGGATTTGAG CTACAAAGGC      2400

TTTCCCATCT TCTATGGAAT CAAATGCTAC TAAATCTTTA GAATAATCAT TTTGGTACAA      2460

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GTCACCTGAC CAATTCAGGC TCTCTGTATC ATCTCATCAT ATTTCCTACT TACTTTACGA      2580

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TTTATAGAGC TTATCAAAAT AGATCAGAAC CTTATATATG TTATCTCCTG TAAGCTTTTC      3000

AGCTTCAATA GTCTGTTTCT TTGCTTTCGC ATCAATTAGT GATGATTCTA ATTCATCTAG      3060
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1008

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TTTGTCATAC ATACGATATA GTCTATCATC TAAATCCTGT TTCCTTCTCT TATAATGCTT        3120

ATCTTCAACA TCTAAATTAT CTATTTCCTC AATTAGCTTA AACTTTGTAG AATGACTCTT        3180

TCTCAATTCC TTTTGGTAAT TATCTATTTC TTTTTCTATT TCAGAGGTAT CCACCTTCAT        3240

GTTGATTTTT TCTTGCATCA TAGAAGCAAA TTTCGGATTA CTTACTATCT TGACAATCAC        3300

CTCTGCAACA GCATCATCTA ACAATTCTTC TCTAATTTGC TTACTGAATG TACACTTATT        3360

ACCTCTTATC ATCTGCCTAT GGTTACAACC ATAGTAATAA AAATCTTTAT ACTTTGTGCC        3420

ATCTTTCTTT TTCTTGATAC ACTTGTTCCC AAACATTCCC ACTCCACATA TCGGGCATTT        3480

TACAATTCCA GAAAGCAAGT GTGTGCGTGT ATCTTTTCCT TTATTCACAT GCTCATATTT        3540

CTTTGCTTGA GATTTTAGCT TAACCTGAGC AGCTTGCCAA ACTTCATCGG AAACTATAGC        3600

TTCATGTATC CCTTCAGATA TTAGATATTC ATCTTGTTCA ACCTGCTTAT ATTCATTTCT        3660

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CAGCTTGCCG TCTTCAAGTT TATATCCATA CGGAGCAAAG CCACCATTCC ATTTTCCTTC        3960

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AGCCACAGCT GATAAAACAG AAATCATTAG TTTCCCAGCA TCTTTAGATG AATCAATGCC        4080

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AGCTTTCATT CGTGATTTTT GTGCCTCTAA CGAATACCCC TCTATCTGTA TTGACGTAGA        4380

TACTCGTGTA TAGAGGTATA CTTTTATTTT TTCTTTTGAC ATAGTATTAA CCTCAATATA        4440

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AAGTGCTTTG GATTAGCAAC ATAGGAATCT CACTTCCGCC TCTATTCCGG ATGAGCCGGC        4800

TTCAACCTTA GAAGTATCAT TACCCTCATT TTCTTCATAG CGGATAGGGT ATCCCTCCCT        4860
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1009

ATATTCAAAC TCTTACTTAT CGCTCACTTT CTTTTTGCTT AGCAGAACTT TTTTTGCCGA          4920

ATTATTCAGC CGAAAGATCT TGACGGATAG GTTATTACGC TCCAAAAATA ATTAACGTCT          4980

TGTCTTGGTC TATTCAATTG TTAAGGTTCA AAATTTATCG AGAGTTATTA ATCTTTTTAA          5040

AATTTGACCA TCAGAAAATA TTTATCTTGA TGTAACAAAA TTCTATAAAT TACCCTCTTA          5100

TACTTAACAG TGAAAAGAAG TCTTTCTTGG TAACCAATTT TGAAATAGAA TTTGCTTATA          5160

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TCATCTAAAA GTCTTCTA                                                        5238

(2) INFORMATION FOR SEQ ID NO: 151:

        (i) SEQUENCE CHARACTERISTICS:
             (A) LENGTH: 13425 base pairs
             (B) TYPE: nucleic acid
             (C) STRANDEDNESS: double
             (D) TOPOLOGY: linear


        (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 151:

GACGATTTAC GAAGAATCGA ACAAGAACCT GCTCCTATCA ATTCCCAACC TCTATCTCTA            60

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GACATCGTCT GGTTGACATT GGTCAAAATA GAACAAACCA AAACGACTCG TTCTATACCT          180

CCAACCTTTC AAATGCATCT CATGTAAATG TTCTTCTTCC TTGTCCAAAT CAACAATGGT          240

GAAAATCCGA AATTCTACTC TGCTATTCAT TGTCTTACCC CAAAATTAGA AAACATGCCT          300

GGCGTTATTT ATTAGATAAT TCTTTCCACT TTTGACTCAA TCTCCAAAAA ATATAAGAAA          360

TCTGAATCGC AAAAACTATC AATAAAACCC AATCTATTAT GAAAATCAAA AACACTTTCC          420

AACTGAAAGA ACTACCTCCA GTGACAAACT TTGAGAAAAA CGGTAGTAGA GCTAAAAAGA          480

GAAATAAAAT AGGAAGCATC CGCATTGTTA AAATCCGTTT GGCATAAAAA AATCTTTATT          540

TAAACGAAAA TATTATGGCA AAATTTACGC CAGTTTTTGA ACGGCTGATG TAGATATTTT          600

ATACTTTCAA AATGTTTAAA TGTGATTATT TATTTTTGAA AAATAGATCA CCAGCCCGAC          660

TGAAAGTGCT TATAGAATGA TAATAAGTCG CCTGCCGAAA ACAGCGAAAA ATAGCGGTGT          720

TATGCGGAGA TAATCTGACG CGATGCGAAA GTATATTGCA TACTTATTTT CAACAATTTA          780

GCAGAGTATT TTTATAAGTG TGATATAATA GAAGTATAAT TTGTTCTGAT AGTTTATTTT          840

ATGGAGAAGT AGATTTTTAG AATGCGGAGG GTTCAATATG GTTGAGTTTA TAAAGTCTAA          900

GAAAGAAATG AGTGAGGAGG ATATTAAAGC AAATTTCATC ACTCCTGCTA TTGTATCCAA          960

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                                        1010
AGGATGGAAA AATGGTGAGC ATATCGCTTA CGAAGAATAC TTCACTGATG GTCGAATTGA    1020

AGTTAGAGGA GATAAGGCTC GTCGTAAAGA AGGAAAAAAA TCAGACTATT CACTGTATTA    1080

CCAATTTGGA ACTCGAATTG CAATTGTTGA GGCAAAGGAT AATAAACACA GCGTTCGAGC    1140

AGGATTACAA CAAGCTATTG AATATGGAGA GATTTTAGAT GTTCCATTTG TTTATTCTTC    1200

GAATGGTGAT GGCTTTATTG AACACGACCG TATCACGAGA GAAGAACGTG AGCTGGAGTT    1260

AGACGAATTC CCTACTCGTG AAGAATTATT TTCTCGTATG ACGAAGGAAA AAGGATTGAC    1320

GTACGAAATT ACAGAAGCTA TCTCAACTCC ATACTATACA GACGCCTTCT CAATGAAAAC    1380

GCCACGCTAT TATCAGCAAA TAGCTATCAA CCGTACTATT GAAACAGTTG CCAGAGGACA    1440

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TATTCATCGC CTTCGAAAAG CTGGTTTGGC TAAACGAGTT TTATTCTTAG CAGATAGAAA    1560

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TGATAAAACA ATTGTTTTTT GTGTTGATAT TGACCATGCC GAGCGAATGC GTGCTGCACT    2220

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TGACAACGCT GAAGGAAAAG CTCAACTGGA TAACTTTATG GATGTCAATT CTAATTTTCC    2340

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AAAATATATC GTTACAGACA AGCAGGTTAC CATTCTTAAT TCTACTGTTC AAGTATTGGA    2700

TGAAAACGGG AAACTGATTA CCGAAAGCCT GACCGACTAC ACTCGAAAGA ATATCTTAGG    2760
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1011

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|---|---|---|---|---|---|
| TAGCTACGCC | ACTTTGAACG | ATTTTATCAC | AGTTTGGCAT | ACGGCAGATA | AGAAGAAGCT | 2820 |
| TATCTTAGAC | GAACTTTATA | AAAAAGGAGT | TTATCTAGAT | GCTATTCGAG | AGTCGGAGGG | 2880 |
| AATATCAGAA | CAAGAAATCG | ATGATTTTGA | TTTACTCCTA | AAACTTGCCT | ATGGTCAAAA | 2940 |
| AGAATTAACC | AAAACGGAAC | GTATCAATAA | ACTCAAACAA | AGCGGATATT | TATATAAATA | 3000 |
| TAGTGAGGAA | GCGCGTGCTG | TTTTGGAAAT | TTTACTGAAC | AAATACATGG | ATAAAGGTAT | 3060 |
| TGGAGAACTC | GAAAGCATTG | AAACATTAAA | ACTTCCAGAA | TTTCAGATAT | ATGGTGGAAC | 3120 |
| CTTCAAAATC | ATCAATACTT | ATTTTGGAGA | TAAAAAACGA | TATTTACAAG | CAATTAAAGA | 3180 |
| ATTGGAGCAA | GAGCTATTTA | CAGTAGCTTA | ATGAAAGGAA | AGTATGTCAA | TTACATCATT | 3240 |
| TGTAAAAAGA | ATTCAAGATA | TCACTCGAAA | CGATGCTGGT | GTTAATGGTG | ATGCTCAACG | 3300 |
| TATTGAGCAA | ATGTCTTGGT | TATTATTCTT | AAAAATTTAT | GATAGCCGTG | AAATGGTTTG | 3360 |
| GGAATTAGAA | GAAGACGAGT | ATGAGTCAAT | TATCCCAGAG | GAATTAAAAT | GGCGAAATTG | 3420 |
| GGCTCATGCT | CAAAATGGGG | AACGGGTATT | GACAGGCGAT | GAATTACTTG | ATTTTGTCAA | 3480 |
| TAACAAGTTA | TTCAAAGAGT | TGAAAGAGCT | TGAAATAACT | TCAAATATGC | CTATTCGAAA | 3540 |
| AACGATTGTT | AAATCAGCTT | TTGAAGATGC | GAACAACTAT | ATGAAAAATG | GCGTCTTGTT | 3600 |
| ACGCCAAGTC | ATCAATGTTA | TTGATGAAGT | TGATTTCAAT | AGCCCTGAAG | ATCGTCATTC | 3660 |
| GTTTAATGAT | ATTTACGAAA | AAATTCTTAA | AGATATTCAA | AATGCTGGGA | ACTCAGGAGA | 3720 |
| ATTTTATACG | CCACGTGCAG | CGACTGATTT | TATTGCCGAA | GTTCTTGACC | CAAAACTTGG | 3780 |
| AGAATCAATG | GCAGACCTTG | CTTGCGGAAC | AGGAGGCTTC | TTGACTTCGA | CTCTGAACCG | 3840 |
| TTTAAGTAGT | CAACGTAAAA | CTAGTGAAGA | TACCAAAAAA | TATAATACAG | CTGTTTTTGG | 3900 |
| TATTGAAAAG | AAAGCATTTC | CTCATCTTTT | AGCAGTTACA | AATCTGTTTC | TTCACGAAAT | 3960 |
| TGATGACCCT | AAAATTGTTC | ATGGAAATAC | TTTGGAGAAA | AATGTTCGTG | AATATACGGA | 4020 |
| TGATGAAAAA | TTTGACATTA | TTATGATGAA | TCCACCTTTT | GGAGGGTCAG | AATTAGAAAC | 4080 |
| AATAAAAAAT | AACTTTCCAG | CAGAATTACG | GAGTTCTGAA | ACAGCTGATT | TATTTATGGC | 4140 |
| TGTCATTATG | TATCGTTTGA | AAGAAAATGG | TCGTGTTGGA | GTTATTTTAC | CTGATGGTTT | 4200 |
| TCTATTTGGT | GAAGGTGTAA | AAACTCGCTT | GAAACAAAAA | CTGGTAGATG | AGTTCAACTT | 4260 |
| GCATACGATT | ATTAGGTTGC | CTCATAGTGT | CTTTGCACCG | TATACAGGAA | TCCATACGAA | 4320 |
| CATTCTTTTC | TTTGATAAAA | CAAAGAAAAC | AGAAGAAACT | TGGTTTTATC | GTTTAGATAT | 4380 |
| GCCAGATGGT | TATAAAAATT | TCTCGAAAAC | TAAGCCGATG | AAGTCAGAAC | ACTTCAATCC | 4440 |
| TGTTCGTGAC | TGGTGGGAAA | ATCGTGAAGA | GATTCTGGAA | GGTAAGTTCT | ACAAATCTAA | 4500 |

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                                    1012
ATCATTTACA CCTAGTGAAT TGGCTGAGTT GAATTATAAT TTAGACCAGT GTGACTTTCC      4560

AAAAGAGGAA GAGGAAATCT TAAATCCCTT TGAGTTGATT CAGAATTATC AAGCGGAAAG      4620

AGCAACTTTA AATCATAAGA TTGATAATGT ATTAGCTGAT ATTTTGCAGT TGTTGGAGGA      4680

CAAATAATGA CACCAGAACA ACTTAAAGCA AGTATTCTCC AAAGAGCGAT GGAAGGGAAA      4740

TTAGTGCCGC AAAATCCCAA TGACGAACCT GCAAGTGAAT TATTAAAGAG AATTAAAGCT      4800

GAAAAAGAAA AACTTATCAG TGAAGGAAAA ATCAAACGAG ATAAAAAGGA AACTGAGATA      4860

TTTCGTGGTG ATGATGGGAA ACATTATGGG AAGTTTGCTG ATGGAAGCAC TCAAGAAATT      4920

GATGTTCCTT ATGATATTCC TGATACTTGG GAGTGGGTGA GGTTTCTAC ATTGGTTGAA       4980

ATTGTCAGAG GTGGCTCTCC ACGACCAATC AAaGATTATC TTACTTCTGA AGTAGATGGA      5040

ATAAATTGGA TAAAAATAGG TGATACTGAA AAGGGTGAAA AGTATATAAA TAATGTTAAA      5100

GAAAAAATCA AAAAATCAGG GCTTAACAAA ACTAGATTTG TAAAAAAAGG TACATTTTTG      5160

TTAACTAATT CTATGAGTTT TGGTAGACCT TATATTTTGA ATGTTGATGG TGCAATACAC      5220

GATGGATGGT TGGCTATTTC GAACTATGAA AACTCATTAA ATAAAGATTA CCTATTCTAT      5280

ATTCTTTCAT CAAATGTAGT TTATTCTCAA TTTCTATCTC TAATTAGTGG AGCTGTTGTG      5340

AAAAACTTGA ATAGTGATAA AGTTGCTTCT ATTCTTATCC CTCTCCCCCC ACTATCCGAA      5400

CAACAACGAA TAGTAGAAGC AATCGAATCA GCTTTAGAAA AAGTAGATGA ATATGCTGAA      5460

AGTTATAATA GACTAGAACA GCTAGATAAA GAATTTCCAG ATAAACTAAA AAAATCTATT      5520

CTTCAATATG CTATGCAAGG AAAATTAGTT GAACAAGACC CAAATGATGA ATCAGTCGAA      5580

GTTTTACTTG AAAAAATACG AGCAGAAAAA CAAAAACTCT TTGAAGAAGG CAAGATTAAA      5640

AAGAAAGATT TGGACATTTC TATTGTTTCC CAAGGAGATG ATAACTCTTA TTATGGGAAT      5700

ATACCTATGA ATTGGGTTGT TATAAAAATA AAAGATATTT TTTCAATAAA TACAGGTCTT      5760

TCTTACAAGA AGGGCGATTT AAGCATTAAT AATAAAGGTG TTAGAATTAT ACGTGGTGGT      5820

AATATTAAGC CTTTAGAATT TTCTCTGTTG GATAATGATT ACTACATTGA TACACAATTC      5880

ATCTCCTCTG AGCAAGTTTA TTTAAAACAT AATCAGCTAA TAACACCTGT ATCAACCTCT      5940

TTAGAACATA TTGGAAAGTT TGCAAGAATC GATAAAGACT ATGATGGTGT TGTGGCTGGT      6000

GGATTTATTT TCCAATTAAC ACCATTCGAA AGTTCAGAGA TTATTTCAAA ATTTCTATTA      6060

TTTAACTTGT CCTCTCCGTT ATTTTATAAA CAATTGAAAG CAATAACTAA ACTATCAGGT      6120

CAAGCTTTAT ATAATATTCC TAAAACTACA CTGAGCGAGC TATTAATTCC GTTAGCTCCT      6180

TTTGAGGAAC AGGAACTTAT TACTCAAAAA GTTGAGAAAC TTTTTGAAAA AGTAAATCAA      6240

CTTTGAAAAT GATTCTTTTC ATCTCTTCAT GATTAGAAAT AGGGATTAAT AATTCGGAGA      6300
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1013

TACTGGTACT ATTTAATGTT TTCCCTTTGA TAGCATCTTT TGAATCACCT AAAGTAGAGA          6360

TAAGTGGCAA AAATATCATT AAGTAATCTC TGATAATATT TTCTTTATTA GCATAGGGGA          6420

ATATCGATAT AATGGCTTCA TTATGAGTGG CAGGAATATC CAATATGGCA ACTTTTCCAA          6480

TAGATAATTT AAAACTCATT AATAAAGTTC CTTTAGGTGA AATGTCTATT TTCTTTGATT          6540

TTAATGCTAA TTTAGAAATA GATTCTCTCG CATTAGTTAC ATAACCAGAT ATAGGCATAT          6600

CTGATATAGA TACCCAAGGT ATTTCAGTTC CCCAAAAAGT AGCTTCACTG CGTGGAGGAG          6660

TTTTTCCTAT TCTGAAGTTA ACTAGGCTAG CAAATTTAAT ATATCTCCAT GCTTCTGGGA          6720

TTTCATATAT AGGATAAGAG GTTGTTTCGT CTTTGTTCCC ATAATAAGAG CCATAATCAC          6780

AAAAATAGCA GGTAGTCAGT TTGACCACCT GTTATTTTTT ACCAATTAAC AATTTTATCT          6840

ACAATATTTT GTTGTTCAGT AGCTGTTTTC CTTAGATAAA TTCGAGTAGT TTCTATACTT          6900

TCGTGTCCCA TCAAATCTGC AAGCAAGGCA ATATCATTAT ACTTCGCTAA AAAATTCTTA          6960

GCAAATAAAT GCCTAAAAGA ATGAGGGTAA ATTACGTTAG GATTCATTTT GTATTTATCA          7020

GCATAATTTT TTAACTGTTG AGCAACTCCT CTTGCTGTAA TTGGTTCGTT AAATTTATTC          7080

AAAAATAAAT AACCACTTCG GCGATTTTCT GATTCTAACC AACTAAGACA ACTATTTCTT          7140

AATTTTTTAG GAATGTACAG TCTACGAATT TTACCACCTT TTGAGTAAAT GTCAAAATAA          7200

CCGATTTCTA CATGCTCTAC TTTTAGTTTA ATAAGTTCAC TTACACGAGC CCCAGTTGCA          7260

CCTAAAAACC AAACGACAAA ATGCCATTTT AAAATACCAT CTTTTTTCAA ACTACGTTTA          7320

AGAAAAAGGT AATCAGCATG GCTAATGACA TCTTCTAAAA ACGGTTTTTG CTGTACTTTG          7380

ACAAATTTTA ATTTCAAATC ATCATGACCA ATAAAAGCCA GATATTTATT TACTCCTTGT          7440

AGTCGCAAAT TGACAGTTTT AGGTTTAAAA TTGTCTAATA AATATCCTTT GTATTCAAAT          7500

AAATCTTCCA TTTTGAGTTC GTAATTCTCC AAGAAAAATC GAACACCATA AAGGTACGAA          7560

CGCACAGTAT TTTCAGCTAA ACCAGCTTTC TTCAAATGTA ATTCAAAATC TTTCAACGTA          7620

AAACTCCTAT CTTATGTTTG ATAGAAATTC CACCGCACGT AAAACTATTA TACTAAATTA          7680

GTGCGTCAAT ATGGGCGAAA AATTGTTCGA TTTTATCAAC GATTCTGGAT TGTTCAGGAA          7740

GGGGTGGGAG GGGGATTAAA TATTCTTTTA TAGTTTTCGT TAATAATTCT TTTTGTTTTG          7800

TACTACCCGA CGCTTTTTCT TCAATAACTG ACTGAACAAT AGGAGAGGAA AGAAAATTAT          7860

AGATGAAATG GCAATTAATA ACCCCCGATA AGACTCTTAT AACTGTAACA TGGCTATCTG          7920

CAACAGCCCA GCCATAAGGA TTTTTATTTT CATGGTAAAT AGCTAATCGT CCTAACGTAC          7980

CTAGACCTGT TGAATTCCAC ATTAAATCAC CATCTCTTAG TAATCTTTCT TTCTGGTAAC          8040

1014

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TATGAACTGT TTCGGGATCA ATAAATCTTG CTAAGTCAAT AGAAAAGCCA GACCATTGAT    8100

TACATTTCTG AGCAATCACA GGGTATATAG GAATATTTGA ATATTTTGGA GACTTCCCTC    8160

TTTGAATGTA GGAGGTTATA TCGTTTAACC TCACCCATTC CCAACTTTCT GGTATTTCAC    8220

AAGGTACTTC CTCATAATAA GAGTTATCAT CTCCTTGGGA AACAATAGAA ATGTCCAAAT    8280

CTTTCTTTTT AATCTTGCCT TCTTCAAAGA GTTTTTGTTT TTCTGCTCGT ATTTTTTCAA    8340

GTAAAACTTC GACTGATTCA TCATTTGGGT CTTGTTCAAC TAATTTTCCT TGCATAGCAT    8400

ATTGAAGAAT AGATTTTTTT AGTTTATCTG GAAATTCTTT ATCTAGCTGT TCTAGTCTAT    8460

TATAACTTTC AGCATATTCA TCTACTTTTT CTAAAGCTGA TTCGATTGCT TCTACTATTC    8520

GTTGTTGTTC GGATAGTGGG GGGAGAGCAA TTAATAATAG ATTAAAATTA TAATCATTGA    8580

TTGCAGGATA ACTTGTTCCA GTAGATTTAT TATTAACACG ATTGATAAAA TTATCTGATA    8640

ATAAATAATA TTTCAAATAT GTTTCGTTAA GTAAAGTATC CAAAACAATA AATGCTGTAC    8700

TAGCTATCAA ATACTCTTTA AGTTCTCTAA CTACAGCAAT ATTTTTTAGA TATGGTCTAA    8760

CTGTTGAAAA TAAGACACTA TTCTGCGAAA CTAATTTTCT AGCACGGGAA GGCGCTTGTT    8820

CAGGTGAAAG ATATTGTAGA TTTTTGTAGT TGATTATGTT CTTTTTTCTA TCAATACTAG    8880

ACGTATCTAT ATACCTAAAG GATTTCTCTG GCTTATTTTG CCCAAAATTC CAATAAATTG    8940

ATTTTATCCT CACCCACTCC CAAGTATCAG GAATATCATA AGGAACATCA ATTTCTTGAG    9000

TGCTTCCATC AGCAAACTTC CCATAATGTT TCTTATGTGC TTCAAGTATA TAAAAAGGCG    9060

TAAAAATACG CCTATAGATA ATGGGGTTGA AATAGGTTTA TTGTTGATGA GATTGTAGAT    9120

AATTCAATTT TTTACTTCCA ATCGAATATT CAAATCCTCC ACCTTTTCTG CCTGTAATTG    9180

TTCATCATAA AATTCAATAT CTTCAGGATT TTCCCCTTGG CAACCTCGGC AGAAATATTC    9240

TTCCGCTCGA TCAGGATTCA AAAATCGACA AGCACAAACA AAACAGTCGC CATCATCATT    9300

TATTGAGATA ATATAGTAGA TTGAAATAAG ATGTAAACAA ATCGATTAGG AAAGTTAAAT    9360

TAGTTTCTAG AAATTTTTAG CAGATGTAGT GTACTATTCT AGTCTCAATT TACTATGGCT    9420

TCAAATATAT CTTTCGAAAA AATATTTACA GATGTGTAAT TTTGAAGCTT GCAAAAGTTA    9480

GTAAACTTGT AGATTTCGAT TTGAAGTAAC TTGTTTTCTT GCCCGATATT GTTTTTGAAA    9540

TTGAATTTTT CCATAGTGAC TCCTTAATTT TCTTCTACAC GTCTGATGAT AAATCTAATT    9600

CGCAAAGAG TCAAGAGGAT TTTTCGAAAA ATAAATAGCG ACCGAAATCG CTATTTTAAG    9660

GGTTATAGGT ATTTGATGGC TTAGACTGCT GTGTGACTGT TTACCCACAG GCAATCTTTC    9720

TTCTATATTA GTATTAGTAA AGGTCTAAAT AATTATCAAT TTCCCATTGT GAAACGAAGG    9780

TTGCATAACT TGCCCATTCG ATTCGTTTGG CTTCAAGGAA GCTAGTATAG ATGTGATCTC    9840
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1015

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CGAGAGCAGC TTTAACCACT TCATCTTCTG TCAAAGCTTT CAAAGCGTTG TGAAGAGTTG        9900

ATGGAAGGTC TGTAATACCA GCTTCCTTGC GCTCTTCTGC TGTCATGATG TAGATATTTT        9960

CTTCGATAGG AGCTGGTGCT TCGATTTTAT TTTCAATACC ATACAAACCA ACTTCCAAAA       10020

GAACAGCCAT AGCAACGTAA GGGTTCGCCA TTGGATCCAC TGAACGCAAC TCAAGACGAG       10080

TTCCCATACC ACGTGAAGCA GGTACGCGCA CAAGTGGCGA ACGGTTACGA CCAGCCCAAG       10140

CAATGTAAAC AGGCGCTTCA TAACCTGGAA CCAAACGTTT GTATGAGTTA ACTGTTGGGT       10200

TCATGATGGC AGTATAGTTG TAAGCATGCT TGATCAAACC GCCTAGGAAA TGGTAAGCTG       10260

TTTCTGACAA CTGCATTCCT TTTGGATCAT TTGGATCAAA GAAGGCGTTA TTTCCTTCTG       10320

CATCAAACAA GGACATATTA CAGTGCATAC CTGATCCAGC AATACCAAAT TTTGGCTTCG       10380

CCATAAATGT TGCGTAAAGT CCGTGTTTGC GAGCAATGGT TTTAACAACA AGCTTAAAGA       10440

TTTGAATCTT ATCACAAGCA CGGAGAACTT CATCGTACTT AAAGTCAATC TCATGCTGTC       10500

CAACCGCAAC CTCGTGGTGA CTCGCTTCTA CTTCAAATCC CATTTTGGTC AAGACATTCA       10560

CAATCTCACG ACGTGTGTTG TCCGCAAGGT CAGTAGGTGC CAAGTCAAAG TAGCCACCCT       10620

TGTCATTCAC TTCAAGTGTT GGGTCCCCAT TTTCATCCAA CTTAAATAGG AAGAATTCTG       10680

GCTCTGGACC AAGGTTGAAG GATTTGAATC CAACTTCTTC CATGTGACGA AGAGCTCGTT       10740

TCAAATTACC ACGAGGGTCA CCCGCAAATG GTTCACCTTC TGTTGTATAG ACATCACAGA       10800

TCAGACCTGC AACACTTCCA TTTTCATCTC CCCAAGGGAA GACTGTCCAT GTATCCAAGT       10860

CCGGGTACAA GTACATATCC GACTCATTGA TACGTACAAA ACCTTCAATA GAAGATCCAT       10920

CAAACATAAC CTTGTTCGAC AAGACCTTAT CTAACTGTTC ATCTGTAGCA GGAATTTCGA       10980

CGTTTTTCAT GGTTCCCAAA ATATCTGAGA ACATAAGACG AATAAAGGTA ACATTTTTTT       11040

CCTTGACTTC ACGACGAATA TCTGCAGCTG TGATTGGCAT AAGTTTTCTC CTTAATCTAT       11100

GACTACTTGC GGTTGCCTAA CCGCGACCAA AAGGTGACTG TACTGAAGCA AAACGCCCCT       11160

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ATTTCGCTTC ACGTTCAGCA TATTTTTTCT TAATGGCAGC GATATTATAA CCTTCAGAGA       11280

TATAATCTTT GATTCAAGC AGACGATCCA TGTCATTCAA GGAATACATG CGACGATTTC       11340

CTTCGTTTCG ATCGGGCTTG ATCAACTCTT GATCTTCATA ATAACGAATC TGACGCGCCG       11400

ATAGATCGGT CAACTTCATA ACACTGCCGA TAGGAAAAAC AGCCATATTT CGGCGAAATT       11460

CTTTTTCCTT CATTTACAAT TTCCTTCTTT CTGTCTATTA TAGTCTAAAA AAAGACAAAC       11520

GTCAATTGAT AATGTTATAA AATGTAACAT TATTTTTCTT TTTTCTCTAA AAAGAGACGA       11580
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1016

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ATACGATCAA TATCGTAATT TACGATAATT GCGACAAAAA CTCCCATAAA CGTTTCTAAT        11640

ACACGCACAA ACACGTACAA AATTGTCTCA CCACTTGGAA TTGATAGGGT AATGATTAAC        11700

ATAGCTGCTA CACCACCAAT AACCCCTGCT TTGTTATTCA TGGCTACATT TGTCATAATG        11760

GTTAACATGG TGCAGATTGG AACAACTACC AAGGTCACCC AAAAGGCTTC GTGGAAAAAG        11820

GTATTTAATA AGAAGAAGAC CAAGGCATAG AGTCCACCGA TACTATTTCC TAGAATACGC        11880

GAAGTCCCAA AATGAACACT CTCATCAAAA CTCTCCCTCA GGCTAAAAAC GGCTGTCAAA        11940

GCACCAATTT GAAGACCTTT CCAGCCAAAA AAGCCAAAAA TCAAGAGAAC TAGAAAAACA        12000

GCAATACCTG TTTTAAAGGT TCGCATACCA AGTTTGAACT GGGATTTATC GAATTTATAT        12060

TTTTTAAAAT AACTCATAAT CTCAACTTTC TATTTCCATT TTATCATAAA TCGGTGATTT        12120

TTATGAGTAA TAGTTGAGAG GAAGCGTTTT TATTTTAAGC AAAAGAAAAG AGGAACTTTC        12180

ATCCCTCTCT TCTTTGATTT ATTTATAAAA TCTTATTTTT CTGTCAAGGC TGCAAGTCCT        12240

GGAAGAACCT TACCTTCAAG AAGTTCCATT GATGCTCCAC CACCCGTACT AATCCATGAG        12300

AACTTGTCTG CACGGCCAAG GTTAATCGCT GCGGCAGCTG AGTCACCACC ACCGATGATT        12360

GATTTAACTC CTGGTTGTTT CACGATAGCG TCCATCACAC CGATTGTACC AGCTTGGAAA        12420

TCTGGGTTTT CAAATACACC CATAGGTCCG TTCCATACGA CTGTTTTGGC ACCAGTCAAA        12480

GCTTCGTCAA ATTTGGCGAT AGATTTTGGA CCGATGTCAA GACCAAGGAA GCCTTCAGAA        12540

ACTGCTTCAC CTTCAGTGTC ACGCACTTCA GTGTAACCAG CAAATGCGTT AGCTTCTTTT        12600

GAGTCAACTG GCAAGATCAA TTTACCATTT GCTTTTTCAA GAAGAGCTTT CGCAACATCC        12660

AATTTGTCTT CTTCTACAAG TGAGTTACCG ATTTCGATAC CTTGTGCTTT GTAGAATGTG        12720

TAAGTCATCC CACCACCGAT AAGGACGTTA TCAGCTTTTT CAAGCAAGTT TTCGATAACA        12780

CCGATCTTGT CTGAAACTTT TGAACCACCA AGGATAGCCA CGAATGGACG TTCTGGAGTT        12840

TCAACTGCTT CTTGGATGTA GGCAATTTCG TTTTCAAGAA GGAAACCAGC AACTGCTTTT        12900

TCAACGTTTG CTGAGATACC AACGTTAGAT GCGTGTGCAC GGTGAGCTGT ACCGAATGCA        12960

TCGTTTACGA AGATACCATC TCCAAGTGAT GCCCAGTATT TACCAAGTTC AGGATCGTTT        13020

TTAGATTCTT TCTTGCCGTC AACATCTTCG TAACGAGTGT TTTCAACCAA GAGAACTTGT        13080

CCATCTTCAA GAGCGTTGAT TGCCGCTTCT AATTCAGCAC CACGAGTGAC ACCTGGGAAA        13140

ACAACATCTT GACCAAGTTT TGCTGCCAAG TCAGCTGCTA CAGGAGCAAG TGATTTACCA        13200

GCTTTATCAG CTTCTTCTTT CACACGTCCA AGGTGAGAGA AAAGAATTGC ACGTCCACCT        13260

TGTTCGATGA TGTACTTAAT AGTTGGAAGA GCTGCTGTGA TACGGTTATC GTTAGTGATT        13320

ACGCCATCTT TCAATGGTAC GTTGAAGTCA ACACGAACGA GGACTTTTTT ACCTTTCAAG        13380
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1017

TCAACGTCTT TAACAGTAAG TTTTGCCATG TTACAAAAAC TCCGG                13425

(2) INFORMATION FOR SEQ ID NO: 152:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 905 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear


    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 152:

GATTTATCCT ACCGGnGAAT TTCCGGAGGG GTTCTAGCAG CAATCTTAGG AATCTATGAA     60

CGAATGATTG GCTTTCTGGC CCATCCCTTT AAAGACTTTA AAGAAAATGT TTTGTACTTT    120

ATTCCAGTTG CCATCGGTAT GCTTCTGGGA ATCGGCTTAT TTTCCTACCC GATTGAATAC    180

CTGCTTGAAA ATTATCAGGT TTTTGTATTA TGGAGCTTTG CGGGAGCTAT TATCGGTACA    240

GTTCCTAGCC TCCTCAAAGA ATCAACTCGA GAATCTGACC GAGACAAGAT TGATTTAGCT    300

TGGTTATGGA CAACCTTTAT CATTTCTGGA TTAGGACTCT ATGCCTTAAA TTTTGTCGTT    360

GGAACCTTAA GCGCCAGCTT TCTTAACTTC GTCCTAGCAG GCGCACTATT GGCCCTTGGC    420

GTCTTGGTTC CTGGCCTCAG CCCATCAAAT TTACTTTTGA TTTTGGGACT CTATGCTCCT    480

ATGTTGACTG GTTTTAAAAC TTTTGATTTC TTGGGAACCT TCTTTCCGAT TGGAATTGGT    540

GCAGGTGCAA CTCTCATCGT TTTTTCAAAA TTGATAGATT ATGCCTTAAA CAACTACCAC    600

TCACGCGTCT ATCATTTCAT CATCGGTATC GTCCTATCAA GTACCCTTTT GATCTTAATT    660

CCAAATGCAG GAAACGCTGA AAGTATCCAA TACACAGGAC TTTCACTTGT CGGTTATGTC    720

ATCATCGCCT TCTTCTTTGC GCTGGGAATC TGGCTTGGTA TTTGGATGAG TCAATTGGAG    780

GATAAATATA AATAATGGCA AAAAAAGTTA AAATCAAAAA AACATTGGTG GAACAAATCC    840

TATCTAAAGC AGCTATCCCT CATCAGGGGA TTCAAATCAA TGCCCTAGAA GGAGAGCTTC    900

CTCAA                                                             905

(2) INFORMATION FOR SEQ ID NO: 153:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 4278 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear


    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 153:

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                                       1018
CTTGAATTAA ATAAAAAACG TCATGCGACT AAGCATTTTA CTGATAAGCT TGTTGATCCC      60

AAAGATGTGC GTACGGCTAT CGAAATTGCA ACCTTAGCGC CAAGCGCCCA CAACAGCCAG     120

CCTTGGAAAT TTGTGGTGGT ACGTGAGAAA AATGCTGAAC TGGCAAAGTT AGCTTATGGT     180

TCCAATTTTG AACAGGTATC ATCAGCGCCT GTAACCATTG CCTTGTTTAC AGATACGGAC     240

TTAGCCAAAC GTGCTCGTAA GATTGCCCGT GTTGGTGGTG CTAATAACTT TTCTGAAGAG     300

CAACTTCAAT ATTTTATGAA AAATCTGCCA GCTGAGTTTG CCCGTTACAG TGAGCAACAA     360

GTCAGCGACT ACCTAGCTCT CAATGCAGGT TTGGTTGCCA TGAACTTGGT TCTTGCATTG     420

ACAGACCAAG GAATTGGTTC TAACATTATT CTTGGTTTTG ACAAATCAAA AGTTAATGAA     480

GTTTTGGAAA TCGAAGACCG TTTCCGCCCA GAACTCTTGA TCACAGTGGG TTATACAGAC     540

GAAAAATTGG AACCAAGCTA CCGCTTGCCA GTAGATGAAA TCATCGAGAA AGATAGAAA      600

GAAGAAAAAA TGACAGCAAT TGATTTTACA GCAGAAGTAG AAAAACGCAA AGAAGACCTC     660

TTGGCTGACT TGTTTAGCCT TTTTGGAAATC AATTCAGAAC GTGATGACAG CAAGGCTGAT    720

GCCCAGCATC CATTTGGGCC TGGTCCAGTA AAAGCCTTGG AGAAATTCCT TGAAATCGCA     780

GACCGCGATG GCTACCCAAC TAAGAATGTT GATAACTATG CAGGACATTT TGAGTTTGGT     840

GATGGAGAAG AAGTTCTCGG AATCTTTGCC CATATGGATG TGGTGCCTGC TGGTAGCGGT     900

TGGGACACAG ACCCTTACAC ACCAACTATC AAAGATGGTC GCCTTTATGC GCGCGGGGCT     960

TCGGACGATA AGGGTCCTAC AACAGCTTGT TACTATGGTT TGAAAATCAT CAAAGAATTG    1020

GGTCTTCCAA CTTCTAAGAA AGTTCGCTTC ATCGTTGGAA CAGACGAAGA ATCAGGCTGG    1080

GCAGACATGG ACTACTACTT TGAGCACGTA GGACTTGCCA AACCAGATTT CGGTTTCTCA    1140

CCAGATGCTG AATTTCCAAT CATCAATGGT GAAAAAGGAA ATATCACGGA ATACCTCCAC    1200

TTTGCAGGAG AAAAATACAGG TGTTGCCCGT CTTCACAGCT TTACAGGTGG TTTACGTGAA    1260

AATATGGTAC CAGAATCAGC AACAGCAGTC GTTTCAGGTG ACTTGGCTGA CTTGCAAGCT    1320

AAACTAGATG CCTTTGTTGC AGAACACAAA CTTAGAGGAG AACTCCAAGA AGAAGCTGGC    1380

AAATACAAGG TGACGATCAT TGGTAAATCA GCCCACGGTG CTATGCCTGC TTCAGGTGTC    1440

AATGGCGCAA CTTACCTTGC CCTCTTCCTC AGCCAGTTTG GCTTTGCTGG TCCAGCCAAA    1500

GACTACCTTG ACATCGCAGG TAAAATTCTC TTGAACGATC ATGAGGGTGA AAATCTTAAG    1560

ATTGCTCATG TGGATGAAAA GATGGGTGCT CTTTCTATGA ATGCCGGCGT CTTCCACTTC    1620

GATGAAACAA GTGCTGATAA TACCATTGCC CTCAACATCC GCTATCCAAA AGGAACAAGT    1680

CCAGAACAAA TCAAGTCAAT CCTTGAAAAC TTGCCAGTTG TTTCTGTTAG CCTGTCTGAA    1740

CACGGTCACA CGCCTCACTA TGTGCCAATG GAAGATCCAC TTGTGCAAAC CTTGTTGAAT    1800
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1019

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ATCTATGAAA AACAAACTGG CTTTAAAGGT CATGAACAAG TCATCGGTGG TGGAACCTTT      1860

GGTCGCTTGC TAGAACGCGG AGTTGCCTAC GGTGCTATGT TCCCAGACTC GATTGATACC      1920

ATGCACCAAG CCAATGAATT TATCGCCTTG GATGATCTTT TCCGAGCAGC AGCAATTTAT      1980

GCCGAAGCTA TTTACGAATT GATCAAATAA AACGATAGAA GTCTGAGATC TTATGCTTGG      2040

ACTTCTTTTT GGAGGGAAAG TAGATGTCTC AAATCGAAAG AATCAAACAG GCTATCATGG      2100

CGGATTCGCA GAATGCCAGC TATACAGAGC GTGGCATTGA GCCTCTCTTT GCAGCGCCAA      2160

AAACTGCTCG CATCAATATC ATCGGTCAGG CTCCGGGACT TAAAACTCAA GAAGCAGGCC      2220

TTTACTGGAA AGATAAAAGT GGTGACCGCT TGCGGGACTG GCTAGGTGTG GATGAAGATA      2280

CCTTTTACAA TTCAGGTTAT TTTGCTGTTT TGCCTATGGA TTTCTACTTT CCAGGACATG      2340

GCAAGTCGGG TGATCTTCCG CCTCGTACAG GTTTTGCAGA AAAATGGCAT CCGCAGGTCT      2400

TACAGGAATT GCCTGATATT CAGTTAACCC TCTTGATTGG GCAATATGCC CAAGCCTACT      2460

ATTTACAGGA GAAAATCAGT GGGAAGGTAA CGGAGAGGGT GAAACACTAT AAAGACTATC      2520

TGCCAGCCTA TTTTCCGCTA GTTCACCCAT CACCACGAAA TCAAATCTGG ATGGCCAAAA      2580

ATCCTTGGTT TGAGGCAGAA GTAGTGCCAG ATTTGAAAAA AAGAATTAAA ACCATTTTAT      2640

AGTCAATGAA AATCAAAGAG CAAACTAGGA AGCTAGTCGT AGGCTGCTCA AAGTACAGCT      2700

TTGAAGTTGC AGATAAAACT GACGAAGTCG GTAACATACG CACGGTAAGG CGACGCTGAC      2760

GTGGTTTGAA GAGATTTTCG AAGAGTATTA GAAGAAAAAG AATGAAAGAA ATAGCCTTTG      2820

ACGCATTTTA CCAGCTTTAC CAAAACGACC AGCTTTCTTT AGTGGATGTG AGAGAAGTGG      2880

ATGAGTTTGC AGCTCTTCAT TTAGAAGGTG CCCACAACCT ACCGCTTAGT CAATTGGCTG      2940

ATAGTTATGA TTAATTGGAC AAAGATCGCT TGCATTATAT TATTTGCAAA TCTGGAATGA      3000

GATCGGCGCG TGCTTGCCAA TTCCTATTAG AACAAGGTTA TAATGTTATC AATGTCCAGG      3060

GTGGCATGTT AGCCTTTGAA GAACTTTAAA ATTTTGCATT TCTCCTACTT GGTGTGGACT      3120

GGGTAGGAGA GTTTTATTTT TAGATAATTC TTATTTTTAA GAAAATTGAA AACATTTAAT      3180

ATTTGCCTCG TGATGCTTTT TTCAGACTCC TAATCGTGGT ATACTAGGTC AGTATTTTAT      3240

AAATATGAAG GAGATTTTTA TGGCTAAAAA AGGTACCCTA ACAGGTTTGC TCCTGTTTGG      3300

AATATTTTTT GGTGCGGGGA ACTTGATTTT TCCGCCTTCT CTAGGTGCTC TATCTGGAGA      3360

ACATTTTCTT CCTGCCATCG CAGGTTTTGT CTTTTCAGGC GTTGGTATCG CCGTCTTGAC      3420

CCTTATTATT GGAACGCTAA ATCCTAAAGG ATATATCTAC GAGATTTCAA CGAAGATAGC      3480

GCCTTGGTTT GCGACTCTTT ACCTCTCAGT TCTTTACTTG TCAATCGGTC CATTCTTTGC      3540
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                                      1020
TACCCCACGT ACTGCTACAA CAGCTTACGA AGTAGGGATT AGCCCCCTTT TGTCGGATGC    3600

AAATAAAGGA CTTGGCTTGA TTGTATTTAC GGTTCTGTAT TTTGCGGCAG CCTATTTGAT    3660

TTCGCTTAAT CCATCAAAAA TCTTAGACCG CATTGGACGT ATTTTAACGC CAGTCTTTGC    3720

AATTTTGATT GTTATCTTGG TCGTTCTGGG AGCTATCAAA TATGGTGGAA CAAGTCCTCA    3780

AGCTGCTTCA CTGCTTATCA AGCTTCTGCC TTTGGTACAG GTTTCCTAGA AGGTTACAAT    3840

ACCTTGGACG CCCTTGCCTC AGTGGCCTTT AGCGTAATCG CAGTTCAAAC CTTGAAACAA    3900

CTTGGATTTT CAAGTAAGAA AGAATACATT TCAACTATTT GGGTTGTTGG TATCGTTGTT    3960

GCCCTTGCCT TCAGCGCTCT TTACATCGGT TTAGGTTTTC TTGGAAATCA TTTCCCAGTA    4020

CCAGCTGAAG CGATGAAGGG TGGAACACCA GGTGTTTACA TCTTGTCACA AGCCACTCAA    4080

GAAATCTTTG GCTCAACAGC TCAACTCTTC CTTGCAGCTA TGGTTACCGT AACCTGCTTC    4140

ACAACGACTG TTGGTTTGAT TGTGTCAACA GCTGAGTTCT TTAATGAGCG CTTCCCACAA    4200

ATCAGCTACA AGGTTTATGC GACAGCCTTT ACCTTGATTG GATTTGCTAT TGCCAATTTG    4260

GGTCTTGATG CGATTATC                                                  4278
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(2) INFORMATION FOR SEQ ID NO: 154:

      (i) SEQUENCE CHARACTERISTICS:
          (A) LENGTH: 1953 base pairs
          (B) TYPE: nucleic acid
          (C) STRANDEDNESS: double
          (D) TOPOLOGY: linear


      (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 154:

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ACCCGATCAA ATGACAAAAG CTAACTTTGG TGTCGTAGGT ATGGCCGTAA TGGGTCGTAA     60

CCTTGCCCTT AATATTGAAT CTCGTGGTTA CACAGTTGCT ATCTACAACC GTAGTAAAGA    120

AAAAACGGAA GATGTGATTG CTTGCCATCC TGAAAAGAAC TTTGTACCAA GCTATGACGT    180

TGAAAGTTTT GTAAACTCAA TCGAAAAACC TCGTCGTATC ATGCTGATGG TTCAAGCTGG    240

ACCTGGTACA GATGCTACTA TCCAAGCCCT TCTTCCACAC CTTGACAAGG GTGATATCTT    300

GATTGACGGA GGAAATACTT TCTACAAAGA TACCATCCGT CGTAATGAAG AATTGGCAAA    360

CTCTGGTATC AACTTTATCG GTACTGGGGT TTCTGGTGGT GAAAAAGGTG CCCTTGAAGG    420

TCCTTCTATC ATGCCTGGTG GACAAAAAGA AGCCTACGAA TTGGTTGCGG ATGTTCTTGA    480

AGAAATCTCA GCTAAAGCAC CAGAAGATGG CAAACCATGT GTGACTTACA TCGGTCCTGA    540

TGGAGCTGGT CACTATGTGA AAATGGTTCA CAATGGTATT GAGTACGGTG ATATGCAATT    600

GATCGCAGAA AGCTATGACT TGATGCAACA CTTGCTAGGC CTTTCTGCAG AAGATATGGC    660
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1021

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TGAAATCTTT ACTGAGTGGA ACAAGGGTGA ATTAGACAGC TACTTGATTG AAATCACAGC        720

TGATATCTTG AGCCGTAAAG ACGATGAAGG CCAAGATGGA CCAATCGTAG ACTACATCCT        780

TGATGCTGCA GGTAACAAGG GAACTGGTAA ATGGACTAGC CAATCATCTC TTGACCTTGG        840

TGTACCATTG TCACTGATTA CTGAGTCAGT GTTTGCACGC TACATTTCAA CTTACAAAGA        900

AGAACGTGTA CATGCTAGCA AGGTGCTTCC AAAACCAGCT GCCTTCAACT TTGAAGGAGA        960

CAAGGCTGAA TTGATTGAAA AGATCCGTCA AGCCCTTTAC TTCTCAAAAA TCATTTCATA       1020

CGCACAAGGA TTTGCTCAAT TGCGTGTAGC CTCTAAAGAA AACAACTGGA ACTTGCCATT       1080

TGCAGATATC GCATCTATCT GGCGTGATGG CTGTATCATC CGTTCTCGTT TCTTGCAAAA       1140

GATTACAGAT GCTTACAACC GCGATGCAGA TCTTGCCAAC CTTCTTTTGG ACGAGTACTT       1200

CTTGGATGTT ACTGCTAAGT ACCAACAAGC AGTACGTGAT ATCGTAGCTC TTGCGGTTCA       1260

AGCAGGTGTG CCAGTGCCAA CTTTCTCAGC AGCTATTACT TACTTTGATA GCTACCGTTC       1320

AGCTGACCTT CCAGCTAACT TGATCCAAGC ACAACGTGAC TACTTTGGTG CTCACACTTA       1380

CCAACGTAAA GACAAAGAAG GAACCTTCCA CTACTCTTGG TATGACGAAA AATAAGTAGG       1440

TCAGCCATGG GGAAACGGAT TTTATTACTT GAGAAAGAAC GAAATCTAGC TCATTTTTTA       1500

AGTTTGGAAC TCCAGAAAGA GCAGTATCGG GTTGATCTGG TAGAGGAGGG GCAAAAAGCC       1560

CTCTCCATGG CTCTTCAGAC AGACTATGAT TTGATGTTAT TGAACGTTAA TCTGGGAGAT       1620

ATGATGGCTC AGGATTTTGC AGAAAAATTG AGCCGAACTA AACCTGCCTC AGTCATCATG       1680

ATTTTAGATC ATTGGGAAGA CTTGCAAGAA GAGCTGGAAG TTGTTCAGCG TTTTGCAGTT       1740

TCATACATCT ATAAGCCAGT CCTTATCGAA AATCTGGTAG CGCGTATTTC GGCGATCTTC       1800

CGAGGTCGGG ACTTCATTGA TCAACACTGC AGTCTGATGA AGTTCCAAG GACCTACCGC        1860

AATCTTAGGA TAGATGTTGA ACATCACACG GTTTATCGTG GTGAAGAGAT GATTGCTCTG       1920

ACACGCCGTG AGTATGACCT TTTGGCGACA CGG                                    1953
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(2) INFORMATION FOR SEQ ID NO: 155:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 6474 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear


    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 155:

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CCGGCAGTAC ACGAGCTTGG GGAACAGCCA CTGGAACGAT GAGGTGTGAG CTCAAAATAT         60
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                                   1022
CCTCCAGTTA TGTTTTTCCT AATAGTATAC CGGAAGAGTG AAAGGATTTT ATAATGGAGC    120

GGTTACAAAG AACCTACTTT CTATTAAACA GTATACTATG AAAATGTGAA AATTTAACAT    180

TTTTTTGTAC AAATTTTATA AATTATTGCC TTTTTAATAT CAATAGTTAA TCTCTTATCC    240

AGATCCCCCT TGTGTAAACT TTATCTTTAT AAGCTTCAAG GCCCCTATCC CATCTATTTG    300

CAACAATTAG ATCACTTTGT TTTGTAAATA GTTCAAAATT CTTTTCAATA ATTACGTTAT    360

CTATACTAAC GTTTAAATTT GGTTCATATA CTAAAATTTT TATACCGACA ATCAATAGTT    420

CATTAATTAT ACTTAAAATA GCTGACTCTT TGTAATTATC TGAATTATAT TTCATCCCCA    480

ATTTATATAT TCCTACTATC TTTGGCTTTC GTTCCAATAT TTGTTTAACT ATGAACTGTT    540

TTCTATTTGT GTTTGAAATA TCAATCGCTT CTATCACTGG GGCATTTATT TCTATAAATT    600

CTTTTTTTAA TTGTTTAGTA TCTTTGGGAA GACAATATCC TCCAAATCCA AAAGAAGGAT    660

TATTATAAAA ATTTCCAATT CTTGGATCTA AACAAACACC TTTTATTACA ACTTCAGCAT    720

TTAAGCTTCT CCTCTCAGCA AAAGAATCTA GTTCATTAAA AAAGCAACAC GGAGAGCTAA    780

GAATGTGTTA GAAAAAAGCT TAATTGCTTC TGCTTCAGTA GGAGAAACTA ACATAACATT    840

TTTAATATTG GCAGTACTAT GAGTACTAAT CGAAAGGAAC AACTCTGCAA TTTTTCTTCC    900

TTCAACTGTC TCATCTCCAA CAACTATGCG ACTTGGATAT AAATTATCAT ATATAGAACA    960

ACCTTCTCTC AAAAATTCAG GGACAAAAAT GATATTTTTT GTATCAAACA GCCTTTTTAA   1020

TTTGTTTGAA AAGCCGATCG GAACTGTTGA CTTTAAAATA ATCTTTCCAT TAGGTTTTAC   1080

CCTCAGAATC TTCGATACCG TTTGTTCGAT TTCATATGTA TTAAAACTAC CAATTTTCTC   1140

ATCATAATCT GTCGGAAGCG CAATAATATA ATAATCAATA TTATTTTTAA TTTCAGAAAA   1200

TGTATCAAAA AAAGTAATAT TTAAGTTATT CTCGCAAAAA AACTTCATAA GCTCTTCATT   1260

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AACAACTTTA TATTTAGATG CAAATAGTAA CGCGTAGGCC AGCCCAACAT GCCCCAAACC   1380

AATTACTGCT ATATTCATAA AACTACTTCC TTATTTCTTA ATCCAAAATC TAATAGAATA   1440

AGCTGCCCCA TTCCTTAAAT ACAACTCTTT AATATTGTTT AAAAGTTTTT CAACTGATTT   1500

CCAGATTATC AAAATCTGAG ATTTATAGCA CAATATTGAT GATATTCTAT CAATATAATT   1560

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CATACTACTA TCACTTACAT ATGGGAAGTC CTCATAATAT ATTACTTTAT AACGCATAAA   1680

TTCAAGCGCC CTTCCAATAC TATTCACAAA AACATGAGCA ACATGGTCAC CAAGTGAAAG   1740

CGGACAATAT ACGACACATT TGTCGTCTAA ATGCATTAAC AGCTCTTTTA TGATATCATT   1800

CTTTAATGTG TCCTCATTTT TTAATTCACT ATAGATATGA CGGTATAGAA AATTGCCATT   1860
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1023

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TCTATCTTTC CTATAGAGAC ATTCATAGTA CGATAAGTGT CTAAAATCAC ATTGTAGACG    1920

TTCACAAGCT AACCTGTCTT CTTTCTTCCT TTCTTCAATC GGATATTTCC CAAGGTTACA    1980

CAACTTATGA AATTGCTTAG CAGAGGGCTG TAGCTGTTGG CTCAAAGGGT AACCAGAAAA    2040

TATAGTAATA ACAAGTACAA TTTCTCCTTC TGAAGTTAAT TTTGAAATAT AATCACCACA    2100

GGAAAAAATT GCGTCATCTA AATGTGGAGA TAAAAAGATA TACTTAGTAT TGTTACTCAT    2160

AACCATTCCC TCTACAATTT ATCTAAAAAC TCACTAAGTG TCTGATTAAA TTCCACATCA    2220

TCAAAAAAAT TCACCTTATT CTTAATAATG AATATTTCGT TAAATAAACA TATATATAAA    2280

TATTTCAATA TCCTTTCAAT ATCATCCTCT AAATTCTCCT CAATATTTTG TATCAGCCCA    2340

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ATGAACTGCA CCCCAAAAGT TAGACAGAAT AAATCTAACT TTTGGGGTGC AGTTCATAAG    2700

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AATCTAAAAT GTTATTAGGA AAATCTTTTA CACTCAAACC AACTTGCTCT AAAGACTGTA    3180

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ATAATTTTAA TAATGTAGAT TTCCCGCTTC CACTTTCACC TAAAATTAAA TACTTTTCAT    3420

TACGTTGAAA ACAAAAATTT AAGTTTTTTA ATATTTCTTT ATCTCCATAC TTATAGCAAA    3480

TATTTTTTGC TTCATATAAC GGAAAATCTC TATTCACCTC ATTTGGTTCG ATATCATTCA    3540

TTTTATTTGA CTCAATTGGA TTAATTGAAT ACAATTTTAA AAAAATAGGC TTCGTACCAA    3600
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1024

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TAATAGAGGA TAATTGACCT CCTAATTCAC CTAGCGCTGT AAAAATAACA CCTGTTAGTG    3660

CTCCTATTGC TTCAATAGTA CCAATTTTCA CTATTCCTTT TATTGCAAGA TAGCCTGTTA    3720

AAAAAACGAG AGATATCTGA AAAAAAATAT TGAGAAAGAA GCTAATAGCG CCTGCTAACG    3780

TTTCTACAGT TGTCTTTCTT TGTATAACCA TCTTTAATAA AATTCCTGCT TCTTTAATTT    3840

TCTTAGGCAA TACATATAAA AGATTCAAGG ACGCTAACAC ATCAAATCCA TTCAATATAG    3900

TCTCACTAGA TTTTAAAAAA GCTTCATTTT GGTTAGTTAA ATTTAGACTA ACTTCTCGCA    3960

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TTAGCCACGA AAGATATGTT CCTGATGATT TACTATGAAA TTCTTGATAG GTAGAGTTAG    4200

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TAATAGTTGC TGCATAAATT AGCAATAATT GACCAGCAAC AATAAATATC GTTAATAAAC    4440

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ATTACTTAAA ATTAACTTAA TTCTATGATT GGTATAGCCA AATTGATGGA TAATTTTATT    5280

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TTGATGTAAA CAACTTTTCA CAGCTCTAAT CAGAGATTCA TACCTATTAT GTGTTGGTAT    5400
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1025

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TATAATACTT ACTAATTCTT GATCTATATT CCTATCCATG ACTACTCTTC TCTAATAATT      5460

CATCATATAC TCTCATGGTT TCTACAAACA TTTTTTGCAC AGAAAAATGT TTTCTTATTT      5520

TTGATTTACT ATTCTCACCT ATATATTTCA AATACTCAGA ATCATTGAGT AAAAAATTAG      5580

CACAAGCACA CACTCCCTCA ACATCTTCCT TCTCAAATAA AAATCCATCA ACCCTATGTT      5640

CAATAATTTC ACTTAACCCG CCAACATTAC TAGCTAAAAC CGGAGTTCCT TGTGACATTG      5700

ACTCTAAAAC ACACATAGGT ATTCCTTCTG TATCAGAAGG AATATACAAT AAATCCGATA      5760

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AAATCACATC TTCTCTGACT AAAAATAATT TTTCTGCAAA TTCAAGGAAT CTATCCGGCC      5940

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CATGACAGTG TATAAGTTGG ATTTTTAATA ATTTTAAAAT ATTTTTAACG TGTAAGGCAG      6360

TTTCAAAATT ATTTGAACAT TGAGTACAAT CAACATAGGC AATATCTAAA TTTTTATAAT      6420

CATCAATAAC CTTTGAATCT CTAGATACAA TTATCAAAAT AGGGAATAGA GACA           6474
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(2) INFORMATION FOR SEQ ID NO: 156:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 4792 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear


    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 156:

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AAAAAGAGCA TTTACGCCAT TATATGATAT CTATCTCTGT GATAAGTTTT TTTTATGGGT       120

AATTTAAAAG ACCAAACGCA AGATGGCAAT CAAGACCACT CCAAAGAGAA CTGTTCCGAC       180

TAGATTGCGG TAGCGAAAGG CTACCCAAGC TGTTGGAAAG ACGGCTAAGA AGTCCAGTCA       240

TTTGATTTGA GGAAGACTGC CAACCTTACC TGTCACTACG CTTGAAAGAA TCAGGGCAAA       300
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1026

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GATAATGGAA ACAGGCAAAA ACTTCAAAAA ACGCTCAACA ATCGCAGGCA GGCCCTTATA      360

CTTGACCAAG ATGAAGGGAA TCATACGGGG AATCCAAGTC ACCAAGCCAG AGAAAATAAC      420

TGCTAATAAA AGATACTTAC TGACCATCTA AAACCACCCC CATGCTACAA CCAAGTAGCG      480

TCGCAAACAG AACAGCTAGT GACTGAGACA TCACTGTCAA GAGCAAAAAG AAGGACACCG      540

CAACAACTGC TAGGATAATG AGCAGATTGC GGACAGGAAT CCGTCTTTGC ATAATCTGAA      600

ATTGCGAAGC AAAATACCAA TAAACATCCC AACCAGGGCA AAATCCAAGC CAAAGATTTC      660

TGGATTTGGT AGCAGGCCAC CCAGAGCCGT TCCGACTACT GTCCCCACAA ACCAAGCCAC      720

ATAGCTGTTA AGATTGTTTC CGTGCATCCA CATAGGATTT ACCTTGTCTG TATGGGCCAA      780

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CAACATGGCA AACTGGGCAC TCCCAGCATA AACAAAGAGA CTCATCAAGC CCATCTCAAC     1020

AGGTGTCACA TAGGGCGCAC CGATAATTCC ACAGGCCAGG CCGATACTGA CATAGCCAAG     1080

AGCCGTTGGC ATGGCTGCCT GCGCCCCCTC CTAAAATCCT TTTTCTTTCA TCTTTCTCCT     1140

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CTAGTGTGGC TAACAAGGCA AGAGATTGAC CAGTTTGTAA ATTCAAAAAG GGCTGGTTCC     2100
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1027

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TAAACAAAAC CAAGAGCACC TTATTCATAT TCCATATCAA TTTCGATGAT TGGAGCAAAT      2220

GCTGGCAAAA GGATTTTACA GAGAGTCCTT CTTGATAGCT AATCGTTTTT TCTACTTTCA      2280

AGAGGTCAGT TTTTATGAAG AGGATACCTA AAAATGCGAT TAAAAAGGTA AGAGCGTTCA      2340

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TTGTTTTCAC TAAACTAACA GTTGACTGTT TAAAGCCAAT AGCTTCTGCC AGATGGTCTT      2460

GCCCAATAAT TCTAATGAAA ATCGGAGTGA GCATGGCGCC TGAAAAATAA CTCAATGTGT      2520

CAGACAAGAG GTTAATCAGA CAAATAAATG CTACTAGCAA CAAGGAGAAA GACTGCCCTG      2580

AAAGTGATAA AGACACTATA GAGTAAAGCA AAAATTTTGC AAAACTAATG ACTGTGTATT      2640

TCAAGACACG ATGATGTTGA AAATCCGCCA AAACTCCCAG AAAGATTTGT AGAACTTGGG      2700

GCAGGGTTTC TGAAATCGTG ATGAGTAAAA TCGCCAAAGG GGCAAAAGAT GCATCTGCCA      2760

CATAATTCAG GAAGGCCAGA TAAAAAATCG TATCCCCAAG CGTTGAAATC CACTGGTTGA      2820

TAGTTAATTG CCTAAAATCT CTATTTTGAA GAAATACTTT CATCACAACT CCTTCTTAAG      2880

TTCAAATGGG AATCTTTCCC CAAGGATAGA CCGCGATACT ACTAACAACC AAAATTACAG      2940

TAACATCAAA AGCTGACCAA TGCCATTGTA GACTATATGC AGTCCAATAG GCCAATAAAT      3000

TGACTTTGTC ATTCTAAATA AGACTGCAAA TATAAGACCT CCACCCATAT AGAAGACAAA      3060

GTCTGTCAAG ACCCAACCGT GATTACTAAT GTGCGAGACC CCAAATAAAA CAGCGGAACC      3120

AAGTACATCT AGCCCCCATT TCTTTCCTTT TTCCAGAGCA GTCATCACTA ATCCACGATA      3180

AATCATGTCT TCAAAAATGG GACCTGCAAT CACAGGATAA AAAAAATACA TCAAAAATGC      3240

TGTAGCCCCT GTAAAGTCG GAGCAGCATG TTGATAAGAA ATTTCATTTC GAGTAGGTGG      3300

GAAAAGAAAA AAGGTAACGA AATTCCAAAC AACAAAAGCA AGCAGAGCTA GGAAGGAATA      3360

GAAAAGATAG GATCCTTTAA ACTTTCTACT ATTGATTTTC TGCCATTTCC CCGACCAAAT      3420

CATAGCAATA AGAGCAAATA AAACCACAAG AAAATTCAAC ATCATATCCG ACAGATAATA      3480

GGCAAAGTCA GATAGCCCAG TAACAAGGTC GCTGCGTAAA ACTAGAACAC TGAACTTCTG      3540

GTCAGCAATA ACTAGTAGAA AAACTATAAT AAAGTAGCGG TGTGAGATTA TCTTTTTCAT      3600

ATATCACCTT TCTAATATCC AAATACCAAT AAAGTAACAA TGAGTAAGAA ACTATTCCAT      3660

GAAGCATGCA GAGCTATAGC CCAATAGATG GATCGGGTGT AGCGAAACAT CATACAAAAT      3720

ATCAAGCCCA TTCCAAAATA CTTTATGAAA TCTGTCGTTA TCCAACCATA CTGCAAAACA      3780

TGCATAGCGC CAAATATGGC AGCGGAAACA AGAACATCAA GATAGTATCT CTTAACTTTA      3840
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1028

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GATAAACTTG TCATCAAAAG ACCACGACAA ACAACCTCTT CTGATACAGG TGCGATAATA      3900

CTAGTATAAA GTATTCGCGT AACAAAATAG CTAATTCCTG TTAAATTGGT GGCTACTTCT      3960

ACGACTGTAC TTCCATTCTG GGTACGAGGA AAGATATAGG TTGTTAGATT TGCCCACACG      4020

AACAATAAGA AAAAGAAAG AAGGAAAACA CCCAGGTAAG ACCAACGAAA CTGGAAACGA       4080

CCACACTCTT TCCAATGTTC ACTTTTGACA AAAGCAATTG TAGCTATAGT TCCCAGAATA      4140

AGTACCAATA AAACTTGGAA CACATAGTAC ATATTATCAG ACAAAGCAAC CATAAAATCT      4200

AAGTCTGATG TGACATTAAA AATGAGGTAA TAAGTCAAAA TCAACAAGCC AGTTGCTAGG      4260

TGAAATTTCA CTTCTTTCAT TTTCTTCATC CTATTATCTC CTATAAGAGC CTATCTTCTA      4320

CGGCGGCCAA ACAATCCATC TGCTAAATCT ATAGTCCAAT CAAAAGCTCC ACGATTAGGA      4380

CTCATCCCTT GATTGCCCCA ACCAGGGTAA ATTCCTGGGA CGCCCCAACC AGATATACCA      4440

CTTCTTCCAC CACCTCCCAT AGAATTTACG AGGTTGCCTC CTCTAACATC TTGCAACTCA      4500

GCTTCTGTCA ATTCCATTGT TTCTGCAAAT TGTAAATTTA ACATCTTTTA CACTCCTTCA      4560

ATTATCTTCA TTTGTAAACC ACTTCTGCGA CCTAGGATTT GCTTCAAGTG CTTTACAAGT      4620

ACAGTATAAC ACGAACATTG GCTTATTTTA GAAAATCGCA TATTTGATAT TTTTTCTTAT      4680

AGAAATTTCA GATTTGCGAT TTTGGTGAAT TTGATTACTT CTCTGGTATA ATAAAGTTAC      4740

TACTAATGAG GAGTGGAGAA ATATGAAGAA ACAAATTTTA ACATTATTGA AA            4792
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(2) INFORMATION FOR SEQ ID NO: 157:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 2156 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear


    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 157:

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CCGTTCTCGG CGACGGCCAT CTGATGAAGC TATTTATGAG GGAAACTGGC AAGCTGGAGA       60

GTCAGAGTAT CTAGTCTTTC ACCGATTGCT GTGGCAGCAG ATGTGCAGGG AAAAGGAGTT      120

GCTCAAACCT TCTTAGAGGG CTTGATTGAA GGTTTTGATT ATCTTGATTT TCGCTCAGAT      180

ACGCATGCTG AAAACAAGGT TATGCAACAT ATTTTTGAAA AACTTGGTTT TAAACAAGTC      240

GGTAAGATGC CAGTAGATGG CGAACGCTTG GCCTATCAAG AATTAAAGAA ATAATGCAAA      300

AGAAGTATGT AAAAATCCTC TACTCCTCAC CAATTGGTAT TCTATCACTT GTAGCTGATG      360

ACCATTATTT GTATGGAATT TGGGTTCAGG AGCAGAAGCA TTTTGAGAGG GGACTAGGAG      420

ATGAAACGAT AGAAGAAGTT GTTAGTCATC CTATTTTAGA CCCAGTTATT GCTTGCTTAG      480
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1029

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ATGATTACTT TAAAGGCAAG CCTCAGGATT TATCCAACTT GCTCTTGGCG CCAATCGGAA          540

CGAATTTTGA AAAGAGAGTT TGGGACTATT TACAGGGCAT TCCTTATGGT CAGACAGTGA          600

CCTATGGACA AATTGCTCAA GACCTGCAAG TGGCTTCTGC TCAAGCAATT GGTGGAGCAG          660

TGGGACGCAA TCCTTGGTCT ATCCTAGTAC CTTGTCATCG TGTGTTGGGA GCAGGCAAGC          720

GTCTGACAGG TTATGCTGCA GGAGTGGAAA AGAAAGCTTG GCTCTTGGAG CATGAAGGAG          780

TAGATTTTAA AGATAGAAGC AATAGAAGGA GAAGCACATG TTAGAATTTA TCGAATACCC          840

CAAATGTTCA ACTTGTAAAA AAGCAAAACA AGAATTAAAT CAATTAGGTG TGGACTATAA          900

AGCCGTCCAT ATCGTGGAAG AAACACCTAG CCAAGAAGTC ATTTTGAATT GGCTAGAAAC          960

CTCAGGATTT GAATTGAAGC AATTTTTCAA CACCAGTGGT ATCAAATACC GTGAATTAGG         1020

GCTAAAAGAT AAGGTAGGAA GTTTGTCAAA CCAAGAAGCG GCTGAGTTGC TAGCAAGTGA         1080

CGGTATGTTG TTAAAACGGC CCATTTTAGT AGAAAATGGA ACTGTTAAGC AAATCGGTTA         1140

TCGAAAATCT TATGAGGAAC TGGGACTGAA ATAGTTTTTA TCTATCTCTT TGATAGATAA         1200

AATATATAAC TTCCCTGTTT CAAAGTATGA TAAACTAGTA GGTAGACAAA GTCTGTATCT         1260

GACCGTAGCA AATAATTTCA TTGACGGCAG AAGCATGGTA GCATGAATCA TTATCAGAAG         1320

AGGATGTTTT TATGAATGTT ACAACGATTT TAGCATCAGA TTGGTACCAA AACTTGATGC         1380

AATTGATTCC GGATGGCAAG CTGTTTAGCC TACGTTCGGT CTTTGATGGA ATCCCTAGAA         1440

TTGTCCAACA ACTTCCAACA ACAATTATGT TGACAATTGG TGGTGCCCTT TTTGGCTTGG         1500

TTTTGGCGCT TCTTTTTGCC ATTGTGAAGA TCAATCGTGT CAAGATTTTA TATCCCTTGC         1560

AGGCCTTCTT TGTTAGTTTC TTAAAAGGGA CACcGATTTT GGTGCAACTC ATGTTGACCT         1620

ACTACGGAAT CCCTTTGGCT TTGAAAGCCC TCAATCAGCA ATGGGGAACT GGTCTCAATA         1680

TCAATGCGAT TCCAGCTGCA GCTTTTGCGA TTGTCGCCTT TGCCTTTAAT GAGGCAGCTT         1740

ATGCTAGTGA AACCATTCGT GCAGCCATTC TCTCAGTTAA TCCTGGTGAG ATTGAGGCGG         1800

CACGCAGTCT GGGTATGACC CGAGCGCAAG TTTATCGACG AGTGATTATT CCTAATGCAG         1860

CGGTGGTAGC TACTCCAACC TTGATTAATT CCCTCATCGG TTTGACCAAG GGAACATCTC         1920

TAGCTTTTAG TGCGGGTGTT GTGGAAGTCT TTGCCCAAGC TCAGATTCTA GGTGGAGCTG         1980

ATTATCGCTA TTTTGAACGC TTCATCTCCG TTGCCCTTGT TTATTGGGTA GTCAATATCG         2040

GAATTGAAAG CCTCGGTCGT TTCATCGAGA GAAAAATGGC TATTTCTGCA CCTGATACAG         2100

TGCAACAGAT GTGAAAGGAG ACCTTCGTTA ATGATTAAGA TTTCGAATTT AAGCAA          2156
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(2) INFORMATION FOR SEQ ID NO: 158:

1030
(i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 3140 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear


    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 158:

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GTATCTCTAC ACATGTCTTC AATCGATTTT GTTGTCCTCC AATTTAATTC CTTATATGCT      60
TTGTCTGCAT TTGCATAACA AGTTGCAACG TCTCCTGAAC GTCTTGGAAC TATTTTATAA     120
GGAATAGGGA TCTTATTAAC ACTTTCAAAT GTATTTACAA GTTGTAATAC ACTAGTGCCT     180
TCTCCCGAGC CTAGGTTATA GATATAAACA TCTGTTTTTT CAGATACTTT TTCTAAAGCT     240
TTTATATGTC CTATTGCTAA ATCTACTACA TGGATATAAT CACGCACACC AGTACCATCA     300
AGCGTATCAT AATCATTTCC GAACACACTT AGCTCTGATA GCTTACCTAC CGCTACTTGT     360
GCAATATAAG GCATCAAGTT GTTAGGAATT CCTGAGGGAT CTTCCCCAAT CAAACCAGAC     420
TCATGAGCAC CAATTGGATT GAAATAACGA AGCAACGCAA TACTCCATTC TGAATCTGCC     480
ACATGAACAT CTTTTAAAAT TTGCTCAAGC ATCACTTTCG TATACCCATA AGGATTTGTC     540
GCACTTGTTT GCATCGTCTC AATTAGAGGT GACTGATTGT TAATTCCATA TACAGTCGCA     600
CTTGAAGAAA AGACAATCTT TTTAACATTA AATTCTGACA TCACTTCAAC AAGTGCCAAT     660
GTACTCATAA TATTATTTTT GTAGTACATC ACAGGCTTTT GCACGGATTC TCCGACAGCT     720
TTATAACCTG CAAAATGAAT TGCAGCATCA ATCGATTCTT GTTCAAATAC CTTTCTCAAT     780
GCTTGTTTAT CACAAACATC TAATTCGTAA AACACGGGAC GTATTCCTGT AATTGCTTCA     840
ATACGGTCTA GCACCAAGAT GCTAGAGTTC GAAAGGTTGT CGACAATGAT AACTTCCTTT     900
CCTAAATTTA GTAATTCTAC TACGGTATGG CTACCAATAT AACCAGCTCC GCCTGTTACC     960
AATATTGCCA TCTGGGTTTC CTCCTAATTA ATTCCAACCG ACTTAACAAA TCTCATAAAC    1020
GCTTCATGCC CAGACGGTGT ATTCTTATAA ACTCCTGCAT CTTCCAGAAC TCTCGCAAAC    1080
ACTTGTCCTG CTTCGTGTTG AACTACGCTA TTAACCTCTT CTTTATTAAT GCGAGGATAT    1140
TTTTCTTTCA ATTGGTCGGC CCATTCTAAA TGATAATCCG CAATTGCATT ATCCTCTCCT    1200
AAAAGATATT TTCCAACTTC TTCTAACTCT GGTTTCAAAC GAGGTGGTAA TATCGCAAGT    1260
CCCATCACTT CGATTAACCC GATATTTTCC TTTTTAATAT GTTGTACATC TTGATGAGGA    1320
TGGAAAACAC CATCTGGGTA TTGTTCAGTA GTATGATTAT CTCTTAGAAC AATATCTAAT    1380
TCGTATCTCC CGTCCACTTT ACGAGCAATA GGAGTCACCG TATGGTGTGG GACATCTTCA    1440
GTCATAGCAA TGATGTCTAC TTCTAAATCT GAATATTCTC TCCACTTATT TAGAATTTTA    1500
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1031

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GTAGCTAAAT CTAACAAGCG ATTTTTATTT TCACTTTGTA ACCTAATTAC TGACATTGGC      1560

CATTTTACAA TACCAGCATT AACATCCTCA AAGTCTTTAA AACAAAATTC ACTCTCAAAT      1620

TTTGCTTTTT CCATTGGGAA AAATATGTTTC CCTCCCTGGT AGTGGTTATG ACTAAGAATG     1680

GAGCCTCCTG AGATAGGAAG ATCAGAATTT GAACCAGCAA AATATCCTGG CAAAATATCA      1740

ACAATCTCCA ATAATTGTTC AAATGTTTTA GAGGTAATAG CCATTGGTAC ATGTTGACTA      1800

TTCAAAAATA TCGCATGCTC ATTAAAGTAT GAGTAGGGAG AATACTGGAA TCCCCATACT      1860

TCGTCACCAA GTTTCAACCG AATAATTCTA TGATTCGAAC GTGCTGGATA ATTTATTCGC      1920

CCCTGATATC CTTCATTTTC CATACATAGT AAACATTTGG GATAATTAGT TGCTTTTACT      1980

AATTTTTCAG CAGCAATTGT TTTTGGATCT TTTTCGGGTT TTGACAAATT TATCGTAATC      2040

TCTAGCTCTC CGTATTTAGT TGATGCTCGA AACTCAATAT TCTTAGCAAT AGCAGAAGTT      2100

TTAATATAAT CACTATCTTT ACTTAACTTA TAAAACTCTT CAACTGCTTC TTGAGGTGAT      2160

ATATCATATG AACTCCAAAA AATATCATTT AATCGACTAG GTAAAGGAAC TATGAAATTC      2220

ATTAACTCTG CTCCTAAACA TTCCTTTTCC TCGATTAAAT CTTTAATTTT ACCGTTTTTT      2280

AAGGCGATTT CCACTAAGTA ATCTTTTATT TGTTTCAGGT CATTTTCATC GGAAATGCGA      2340

TCAATTCCCT CCTCACCTAT TAACGCTAGT ACTCTATTTT TCACATATAT TTTGTCAATT      2400

TCATTATACA TTCCGTATTC AATTACTCTA TCAACAAAAT TATCAATAAT TGTTTTCATA      2460

TATTTTTCTT TCTAATTTAT GTTCCCATAT TTTCTATACA TTATCCATTT ATAAATTGCT      2520

TGCGTAGTAT GAGCAATTTT ATCAAGGTGA TGAATAATAT CTAAAGCACT AATTACTTCA      2580

GAAACGTTCC CATCATCTTC AAATATGTAA TTCATTATTT TCTTTTCCAT ATTTATACTA      2640

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TCTCTATAAC AAGATATAGC CCTATTCATA TGCAGTCCGA TAACTTCATG AAGTATTTTT      2760

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ATTCTTCTTA AGTCATATGA AACAGGATGT TGTAAACAAA TTAACTCATA TCCTTTTTTA      2940

TCAATATTTA GAACTGACTC ATTTATGATT AAATCTTCTT TAATCAATTC TACTCGTTCT      3000

TCATTTGATA AATATTCAAA TAACTTCTCA TATTTATCAA GCACAGATAC CCAAATGGTC      3060

TCTAAATTAT TTGATAATTC TATAATTTCA TTTTCTAAAT ATAACCTTAA CATTTAGGTA      3120

CCTCTTCTTA ACAAAGTTCG                                                  3140
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(2) INFORMATION FOR SEQ ID NO: 159:

1032

(i) SEQUENCE CHARACTERISTICS:
    (A) LENGTH: 9048 base pairs
    (B) TYPE: nucleic acid
    (C) STRANDEDNESS: double
    (D) TOPOLOGY: linear


    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 159:

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CCGGATGATT TCCTGGTCAG ATAGGGGGAA AGTGACTTCC TCAGCAATCG CGCGTAGAGT        60

AGGATTCCCT TCACGGATAA TATCGTTCAT ATCAATTAAG TGAGCAGCTT TTGTAATACG       120

TTCTATTGCA GACATTTTCT CTCCTTATAT TATGTTTAGT GCAGTTAGCT ACTGCCAAAG       180

CCCAAGTGGT ATACTTGGAA TAAGCCACTG TGGATTAGTT CATTTTCTTT CATTACCTCT       240

ACATGATATC ACAAAATGAC AAGAATTGAA AGCATTATGG CATTTAGGAT TTATAGAAAA       300

TAGATAGGAA GTTCAATTCA ATTGTGAAAG AAATACTTAT CTGTGATATA ATAAAAAGAA       360

AAGGCTTGCA TAAGAAAGTA GGGAGAACGA AGATACAAAG AAGACAAAAT CGAAATCAGG       420

GTGGTTTAGC TTTTCGTTTT ATGAAGGGCT TGGTAAACTT TTTAGGAGTT ATCGCAAGTG       480

GAGCAATAAG GGATTTGTGG CGATACTCTT GCTAGCAGTT GGTTTATCAA TGGGCTTGGT       540

CTTGTTGTTT GAAAGCTTCC AAGGAATCCC TTGACTAGTC AAAAACGAGA TACTATTTCT       600

CAAGAGGGGA CTAAGCAAAA GTCTCAGGAG TAGGAAGAGG AAAAAACTGC CAGAATTATG       660

GCCCACGGGG ATTTGCTCTA CCACGATGGA CTTTTCTTTT CAGCTAAAAA AGAAGACGGT       720

ACCTATGACT TTCATGAAAA TTTTGAGTAT GTGACTCCTT GGCTCAAGCA AGGGGACTAA       780

GCAGCAGATT TAGCTATTGG TGATTTTGAA GGAACCATTA ATAAGGATCA TTATTTAGCG       840

GGTTATCTTC TCTTTAATGC TCCTGTTGAA GTTATGGATG CTATTAAGGA GGCAGGTTAT       900

CATGTGCTGG ATTTAGCTCA TAATCATATT TTGGATTCGC AAATTGAGGG AGTTATTTCA       960

ACGGCCGATA TTATTGAGAA AGCTGGAATC ACTCCAATCG GAGTTTATAC GCACGAACCA      1020

CGTGATCAGG CTCCGCTGGT CATTAAGGAA GTGAATGGTA TCAAGGTTGC ATTGTTAGCC      1080

TATTCCTATG GTTTCAATGG AATTGAGCAG TATATTTCTC AGGAAGACTA TAATCGTTAT      1140

CTTTCAGATT TAAACGAAGA TAAGATGAAG GTTGAAATTG AACGGGCAGA GAAGGAAGCA      1200

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CAAAAAGCTC TTTATCACAA GATGATCGAT TTGGGAGCGG ATATTATCTT TGGAGGGCAT      1320

CCTCACGTTG TTGAACCATC TGAAACGGTT GAAAAAGATG GAGATAAGAA ACTCATTATC      1380

TATTAAATGG GGAACTTCAT TTCCAATCAA CGAATTGAAT CTATGGGAGA TGAAGAGAAT      1440

GCTAAGTGGA CTGAACGTGG TGTTCTCATG GATGTCACCA TCAAGAAGAA GGATGGAAAA      1500
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1033

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ACAACTATCG GAACAGCTAA AGCTCATCCT ACTTGGGTCA ATCGAACACC AAAGGGAACC      1560

TTTTCACCAG AAGGATATCC CTTGTATCAT TACCAAACTT ATATTTTGGA AGATTTTATA      1620

GAGGATGGCA GTCATCGTGA CCAGTTAGAT GAAGCGACTA AGGAACGAAT TGATACAGCC      1680

TATAAAGAAA TGAATGAACA TGTGGGATTG AAGTGGTATT AGCTTGAATC CAGAGGAAAG      1740

TAAATGATGA TTAAGGTAAT TGCGACAGAT ATGGATGGGA CCTTGCTGGA TGCTAGAGGT      1800

CAGCTTGATC TCCCACGATT GGAAAAGATT TTAGATCAGT TGGATCAAAG GGGCATTCGT      1860

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GATCGAGTGG TTCTGGTTGT TGCTAATGGC GCTCGTATTT TTGAAAACAA TGAATTGATT      1980

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GCGTGTCAGG ACCAGTTTGT TGTAACGGGG ATGAAGGGTG ATTTTGTCAA GGAAGGTACG      2100

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ATGCAATTTG TGGATGAATT AACATCTGAC CTCTTTGGTG GTGTGCTCAA GATGAGCATG      2220

GTTGTTGGTG AGGAACGTTT GAGTTCGGTT TTGGAAGAAA TCAATGCTCT CTTTGATGGC      2280

CGTGTCCGAG CTGTATCCAG TGGCTATGGT TGCATTGATA TCCTCCAAGC TGGGATTCAT      2340

AAAGCATGGG GCTTGGAGGA ATTACTCAAG CGCTGGGACT TGAAATCCCA AGAAATCATG      2400

GCTTTTGGTG ATAGTGAAAA TGATGTTGAA ATGCTTGAAA TGGCTGGAAT TGCCTATGCG      2460

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GATTAAATTG CTTTCCATTT TGCCTGTCAA TGAGAGAGAG GAGTACCAGC AGGCAGTCTA      3000

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CAAAAAAGAA TATACAACTG ATGGACTGCA CCTCAGTATT GCTGGTTATC AGGCTTTGTC      3180

AAAATCCTTG AAAGACTATC TTTACTAAAT AGCTAAATAA TGTTAAATTT GAGCATAATA      3240
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1034

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TCTTGTAAAA AATTCTAAAA TCCTTTAAAA TAAAAAGTGA CGGAGGAATT TATGAATGTA    3300

AATCAGATTG TACGGATTAT TCCTACTTTA AAAGCTAATA ATAGAAAATT AAATGAAACA    3360

TTTTATATTG AAACCCTTGG AATGAAGGCC TTGTTAGAAG AATCGGCCTT TCTGTCACTA    3420

GGTGACCAAA CGGGTCTTGA AAAGCTGGTT TTAGAAGAAG CTCCCAGTAT GCGTACTCGT    3480

AAGGTAGAGG GAAGAAAAAA ACTAGCTAGA TTGATTGTCA AGGTGGAAAA TCCCTTAGAA    3540

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AAATTCTTCC TTGGTAAAGA TAGAAATAAT GTTGAATTGT GGTTTGAAGA AGTATGAAGT    4020

GGACCAAGAT TATTAAAAAA ATAGAAGAAC AAATCGAGGC AGGGATTTAT CCCGGAGCCT    4080

CTTTTGCGTA TTTTAAGGAC AATCAATGGA CAGAGTTCTA TTTAGGCCAG AGTGACCCAG    4140

AGCATGGCTT GCAGACTGAG GCAGGACTAG TTTATGACCT AGCTAGTGTC AGCAAGGTTG    4200

TTGGGGTTGG CACAGTTTGT ACCTTCTTGT GGGAAATAGG TCAATTAGAT ATTGATAGAC    4260

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CGGGCTATAC AGGTACCTTT ATCATGTGGA ATCGTCAGAA GCAAGAAGCC ACTATTTTCC    4860

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TTTACTAACA GTTGTGGCTG GTATTGCTTG GGGGTTGTCA GGAACGAGTG GCCAATACCT    5040
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1035

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AATGGCACAC GGAATTTCGG CTCTGGTCTT GACTAACTTG CGTCTTTTAA TCGCTGGTGG      5100

AATTCTCATG CTCTTGGCTT ATGCTACTGC AAAGGATAAA ATACTGGTCT TTTTAAAGGA      5160

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CGCCTATCTG TCTGCTATTC AGGAGACCAA TGCGGGAACA GCGACGGTGC TTCAGTATGT      5280

TTGTCCTGTC GGAATTTTAA TTTATAGCTG TATCAAGGAT AGGGTGGCAC CGACACTGGG      5340

AGAGATAGTT TCCATCATAT TCGCCATCGG AGGAACCTTC CTGATCGCAA CACATGGGCA      5400

GTTGGACCAG TTATCCATGA CACCTGCTGG TCTGTTCTGG GGTCTCTTTT CTGCCTTGAC      5460

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CATTGGTGTG GGAATGGTCA TAGCAGGTTT GGTCGCCCTT CCTTTTACAG GGGTTCTACA      5580

GGCCGATATC CCGACTAGTC TTGATTTTCT CCTTGCGTTT GCAGGCATTA TCCTTATCGG      5640

GACTGTCTTT GCCTATACAG CTTTCCTTAA AGGAGCCAGT CTGATAGGAC CGGTCAAGTC      5700

AAGCTTGTTG GCTTCAATTG AGCCAATATC GGCGATTTTC TTTGCCTTCT TAATAATGAA      5760

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GTTTTTGCGT GGTAATCTAA TTATTTTCAA GATAAAATTC AAAGCGTTCG CCTACATATT      5940

GACTTTTTAC GTATTCAAAA GCAGTACCAT CTTCTAGGTA GGAAACCTGG GTCAATCCAA      6000

GAATAGCATG·TCCTTTTTCA ACTTCCAAAT AGTGGGCAAT CTTTTCTTTA GCAAGGCGAG      6060

CATAGATGGT CTGTTGAGAT TTGCCGATAC GATAGCCATG TTTTTGCAAG GTTTGGAAGA      6120

AATGACTGGT GATTTCTTCT TTTTTAAAGT CCTTAATGAA TTTTTCAGGA ATAGAAGCAA      6180

CTTCATAAAC TAGGGGAACT TGGTCGGCAT AGCGGACCCG CTCCATTCGG ATAATATTGT      6240

CCGTTGGAAA AATTCCTAGC TTGGCAACTT CTTGCTCATT GGGAATGGTT TTTTTGTAGC      6300

AAATGAGCTG GCTAGAGGGA ACTTTACCTT GGGATTTGAC AATTTCAGTA AAACTGGTTG      6360

TCCCTCGCAT CTTTTCTTGT ACTCGAGTAC TGGAAACAAA GGTGCCGCTT CCTACACGGC      6420

GCTCTAAGAC GCCTTCTTCG ACTAATAGAG ATACGGCTTG GCGGAGGGTC ATGCGACTGA      6480

CCGCAAACTG CTCAGCTAAA TCTCTTTCAC TGGGAAGCCT CTCACCAATA GCCCAACGGT      6540

ACTCGTCAAT ATCCTTTTTT ATCTGATCAT GGATTTTTAT ATAAGCAGGT AGCATATTTT      6600

TCACTTCATT TCTATCTTTT CTCTATTGTA CCCCAATAAA CTAGAAAAAG TCAAACTTCG      6660

CCTTGTTTAG TTGGTAATTC GCCCTTATTT GTGATAGAAT ATTGAGAAAA GATATTTCTT      6720

TTGAGAAAGG AAAAAGATGA GCAACATTTC AACTGATTTG CAAGATGTAG AAAAAATCAT      6780
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1036

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CGTATTGGAC TATGGTAGCC AGTACAACCA GCTGATTTCA CGCCGTATCC GTGAGATTGG    6840

TGTTTTTTCA GAACTAAAAA GCCATAAAAT TTCAGCTGCT GAAGTTCGTG AAGTCAATCC    6900

TGTAGGAATT ATTCTATCAG GTGGTCCAAA TTCTGTATAT GAAGATGGTT CATTTGATAT    6960

TGACCCAGAA ATCTTCGAAC TCGGAATTCC AATTTTGGGA ATCTGTTATG GTATGCAGTT    7020

ATTGACCCAT AAACTTGGAG GAAAAGTTGT TCCTGCAGGT GATGCTGGAA ATCGTGAATA    7080

CGGTCAATCA ACCCTAACTC ACACACCATC AGCGCTTTTT GAATCAACAC CTGATGAACA    7140

GACTGTTTTG ATGAGCCATG GTGATGCGGT TACTGAGATT CCTGCTGACT TTGTTCGTAC    7200

AGGTACATCA GCTGACTGCC CATACGCAGC CATCGAAAAC CCAGATAAAC ACATTTACGG    7260

TATCCAATTC CACCCAGAAG TTCGTCATTC TGTATACGGA AATGATATCC TTCGTAACTT    7320

TGCCCTTAAC ATTTGTAAGG CTAAAGGTGA CTGGTCAATG GATAATTTCA TTGACATGCA    7380

GATCAAAAAA ATTCGTGAAA CCGTCGGTGA TAAACGTGTC CTTCTTGGTC TATCAGGTGG    7440

TGTTGACTCA TCTGTCGTTG GGGTTCTTCT CCAAAAAGCG ATTGGCGATC AATTGATCTG    7500

TATCTTCGTA GACCACGGTC TTCTTCGTAA AGGCGAAGCT GATCAAGTTA TGGACATGCT    7560

CGGTGGTAAG TTTGGTTTGA ATATCGTCAA AGCAGACGCT GCTAAACGTT TCCTTGACAA    7620

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GTAAATGAAG TGGATCATGT TAACCGTATC GTCTACGATA TTACAAGTAA ACCACCTGCA    8280

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AATAGTTCCA AGTGGTTTAC ATTTGGACAA AAAATTAGAC CGTAGTTTTC AAGCTGCGGT    8460

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CTAAGCTCGA GAAAGGACAA ATTTTGTCCT TTCTTTTTTG ATATTCAGAG CGATAAAAAT    8580
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1037

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GAGATTATTG GTCGCTTCCA ATTTGGCGTT AGAATAGTGT AGTTGAAGGG CGTTGACGAT        8700

TTTCTCTTTG TCCTTTAGAA AGGTTTTAAA GACAGTCTGA AAAAGAGGAT GAACCTGCTT        8760

TAGATTGTCC TCAATGAGTC CGAAAAATTT CTCCGGTTCC TTATTCTGAA AGTGAAACAG        8820

CAAGAGTTGA TAGAGCTGAT AGTGATGTTT CAAGTCTTGT GAATAGCTCA AAAGCTTGTT        8880

TAAAATCTCT TTATTGGTTA AATGCATACG AAAAGTAGGG CGATAAAAAT GTTTATCGCT        8940

GAGTTTACGA CTATCCTGTT GTATGAGCTT CCAGTAGCGC TTGATAGCCT TGTATTCATG        9000

AGACTTTCGA TCCAATTGAT TCATGATTTG AACACGCACA CGACTCGG               9048
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(2) INFORMATION FOR SEQ ID NO: 160:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 10399 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear


    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 160:

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CTTGTCTTCT CATTTATTAT CAAATAAATA CATGGAACGA GAAGAAAAGG GAGGATTTTA         180

GATGGAAGAA AGTATTAATC CAATCATCTC TATTGGTCCT GTTATCTTCA ATCTGACTAT         240

GTTAGCCATG ACTTTGTTGA TTGTGGGAGT TATTTTTGTC TTTATTTATT GGGCAAGCCG         300

CAATATGACC TTGAAACCCA AAGGAAAGCA AAATGTACTT GAGTATGTCT ATGACTTTGT         360

TATTGGATTT ACAGAACCTA ACATTGGTTC GCGCTACATG AAAGATTACT CACTCTTTTT         420

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AACGATCGAT GGGACTAACT GGTGGAGTTC GCCAACCGCT AATTTACAGT ATGACTTAAC         540

CTTATCTTTT CTTGTCATTT TGTTGACACA TATAGAAAGC GTTCGTCGTC GTGGATTTAA         600

AAAAAGTATA AAATCTTTTA TGAGTCCTGT TTTTGTCATA CCGATGAATA TCTTGGAAGA         660

ATTTACAAAC TTCTTATCTT TGGCTTTGCG GATTTTTGGG AATATCTTTG CAGGAGAGGT         720

CATGACGAGT TTGTTACTTC TTCTTTCCCA CCAAGCTATT TATTGGTATC CAGTAGCCTT         780

TGGAGCTAAT TTGGCTTGGA CTGCATTTTC TGTCTTTATT TCCTGCATCC AAGCTTATGT         840

TTTTACTCTT TTGACATCTG TGTATTTAGG GAATAAGATT AATATTGAAG AGGAATAGAA         900
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                                    1038
AGGAGTAACT GATGCACGTA ACAGTAGGTG AATTAATTGG TAATTTTATT TTAATCACTG      960

GCTCTTTTAT TCTTTTGCTA GTCTTGATTA AAAAATTTGC ATGGTCTAAT ATTACAGGCA     1020

TTTTCGAAGA AAGAGCTGAA AAAATTGCTT CAGATATTGA CAGAGCTGAA GAAGCCCGTC     1080

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ATATCGATCA GCTAGGAGAA GCTTAATGGA CAAGAAAACA GTAAAGGTAA TTGAAAAATA     1440

CAGCATGCCT TTTGTCCAAT TGGTACTTGA AAAAGGAGAA GAAGACCGTA TCTTTTCAGA     1500

CTTGACTCAA ATCAAGCAAG TTGTTGAAAA AACAGGTCTG CCTTCTTTTT TAAAACAAGT     1560

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TGTTAAAGAA AATTTGAAAT AGAAAGTGGT GTTCTTTTGG CAATTAACGC ACAAGAAATC     1980

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CGCCGTACAG GGAAAATCAT GGAAGTCCCT GTAGGTGAAA GTCTGATTGG TCGTGTTGTG     2280

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CAAGATATGA TCTGTATCTA CGTCGCGATT GGACAAAAAG AATCAACAGT TCGTACGCAA     2580

GTAGAAACAC TTCGTCAGTA CGGTGCCTTG GACTACACAA TCGTTGTGAC AGCCTCTGCT     2640

TCACAACCAT CTCCATTGCT CTTCCTAGCT CCTTATGCTG GGGTTGCTAT GGCGGAAGAA     2700
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1039

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TTTATGTATC AAGGTAAGCA TGTTTTGATT GTATACGATG ATCTATCAAA ACAAGCGGTA        2760

GCTTATCGTG AACTGTCGCT CTTGCTTCGT CGTCCTCCAG GTCGTGAAGC CTTCCCAGGG        2820

GATGTTTTCT ATCTCCACAG CCGTTTGCTT GAGCGCTCAG CTAAAGTTTC TGATGAACTT        2880

GGTGGTGGAT CAATTACAGC CCTACCATTT ATCGAGACAC AAGCAGGAGA TATCTCAGCC        2940

TATATCGCAA CCAACGTGAT TTCTATCACT GATGGACAAA TCTTCCTTGG CGATGGCCTC        3000

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CCAGAGATTT TGGAAACCAT TCGTGATACA AAAGACTTGC CAGAAGAAGC AGTCTTGGAT        3420

GCTGCGATTA CAGAGTTTCT CAATCAATCT AGCTTCCAAT AAGAATAGAG GTGTCAGATG        3480

GCAGTATCTC TAAATGATAT TAAAACAAAA ATCGCCTCAA CAAAAAATAC GAGTCAAATC        3540

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ACAGAAATCG TAGCAGGTGC TAGTGCCTTA GAATAGGCTC TAGTCCAGCT CGTATGAAAA        4380

TGAACTTAGG ACCTAGTTGA GCTAGGAACC GACAGTATCT TATATAGAAT AGGAGAAGGA        4440
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CCTTCTTGCC CCTTACCTTA AAGGTGGTAA AGTTGGACTT TTCGGTGGTG CCGGAGTTGG      4920

TAAAACTGTC TTAATCCAAG AATTGATTCA CAACATTGCC CAAGAGCACG GTGGTATTTC      4980

AGTATTTGCT GGTGTTGGGG AACGTACTCG TGAGGGGAAT GACCTTTACT GGGAAATGAA      5040

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AGCACGTATG CGTGTTGCCC TTACTGGTTT GACAATCGCT GAATACTTCC GTGATGTGGA      5160

AGGCCAAGAC GTGCTTCTCT TTATCGATAA TATCTTCCGT TTCACTCAGG CTGGTTCAGA      5220

AGTATCTGCC CTTTTGGGTC GTATGCCATC AGCCGTTGGT TACCAACCAA CACTTGCTAC      5280

GGAAATGGGT CAATTGCAAG AACGTATCAC ATCAACCAAG AAGGGTTCTG TAACCTCTAT      5340

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AAGAAGCACA AGACAAACAT TTGATTGACC AAGAACGTCG TGCTAAGATT GCTTTGCAAC      6240
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1041

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TATTGAGTTC ACAAATGAGA TAAGCGATTT TATAGTGGTT ATGGAAAATG ATATGGCGTG     6780

AGCCTGCTCC TGGCTTGCTG TGATAGGTAT AGAGCTTAGA TAATTTTCCT TCTTGATCGA     6840

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AGTGGGGAGC TCCTTCTTCA ACAACATGAT TTAACACAGT CCCGTCAGTT TGATAGGCTG     7140

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TTAGAGCAAG TTTTGACCAA TTTTTCTAGC CAGGCTACAG TTTTGGCAAG TAAGGTTTCA     7980
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                                    1042
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TCAAGAAATG GACGATTTGG ATACTGCTTA TGAGTATTAT CAAGAGTTGA CAGGAGATTT        9720

GAAGGACAAT CCAGAATTTC TGGAACACTA TATCTATCTC TTGCGTGAAT TGGGACATTT        9780
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1043

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GCAAGAACTG TTTGAGAGAT TGTAAGAATG TTTAACCCAA ATCATTCATA CCTCTCTCAA    9900

CTAGATGTAA CTTACAAAAC CCCTGACCTC ATGAGCCACT TTCTTCCTCC TCATGAGGTC    9960

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TTTATCGCCA AAAAATCGG    10399

(2) INFORMATION FOR SEQ ID NO: 161:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 9409 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear


    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 161:

GATAAGATTA AGTTAGAAAA GAAAGAACTA GGACATATCT ACCAGATTCA GGTTTTTAAT    60

AGCTATGGGC AGGAAGAAAT CTATCGTGTG ATTTTGATGG AGACCAATAT TAGTTCGGTT    120

TCAACCAATA TCAAGTATGC TGCTGTCTTG ATTAATACCA GTCAGTTGGA ACAGGCTAGT    180

CAAAAGCATG AGCAATTGAT TGTGGTCGTG ATGGCTAGTT TCTGGATTTT GTCTTTACTT    240

GCCAGTCTCT ATCTAGCTAG GGTCAGTGTT AGGCCCCTGC TTGAGAGTAT GCAGAAGCAA    300

CAGTCTTTTG TGGAAAATGC CAGTCATGAG TTACGAACTC CACTCGCAGT TTTGCAAAAT    360

CGCTTAGAGA CCCTTTTTCG TAAGCCAGAA GCTACCATTA TGGATGTGAG CGAAAGCATT    420

GCATCGAGTT TGGAAGAAGT CCGAAATATG CGTTTTTTAA CGACAAGCTT GCTGAACTTA    480

GCTCGGAGAG ATGATGGGAT TAAGCCGGAG CTTGCAGAAG TTCCAACTAG CTTTTTTAAT    540

ACAACTTTCA CAAACTACGA GATGATTGCT TCGGAAAATA ATCGTGTCTT CCGTTTTGAA    600

AATCGTATCC ATCGAACAAT TGTCACAGAT CAGCTTCTTC TGAAACAACT GATGACCATT    660

CTTTTCGATA ATGCCGTCAA GTATACTGAG GAGGATGGTG AAATTGATTT TCTTATCTCG    720

1044

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GCGACCGATC GCAATCTTTA TTTACTTGTT TCTGATAATG GAATCGGTAT TTCGACAGAA        780

GATAAAAAGA AAATTTTTGA CCGTTTTTAT CGAGTAGACA AGGCTAGAAC CCGGCAAAAA        840

GGTGGTTTTG GTTTAGGATT ATCCCTAGCC AAGCAAATTG TAGATGCTCT AAAAGGAACT        900

GTTACTGTCA AAGATAATAA ACCCAAGGGA ACAATCTTTG AAGTGAAGAT TGCCATTCAG        960

ACACCATCTA AAAAGAAAAA ATAAAAATAT CGCTCCAATT GGGGCGATAT TTTGGATTTA       1020

TCTTCTACGT TTTCGTTTGA TAATAGACCG TTGAACTTTT AAAACAAGTA AGCTGAATCC       1080

GATTGCTGCG GCAAAGGCAA GAGCAGTTGA TAATTTTAAT GCTAAAAAGA TAAAACTAAA       1140

GATAGCAATA CAGATACAAA AAACAGCGAT ATTAATAAAA AATAGGATTT CCTTGAGATT       1200

GGCATCAGAT TGCGCTTCAG GTGTATAAGC TTGGTAATGA GGAAGCTGCT GGTTTAATTC       1260

TTCTTGATAG TCTACCTCAT AGGATTGTAA TTTTCTTACG GGCATGATTC TCTCCTTAAC       1320

AGTACATACC TATTTTATCA TTTTTTTCGGC AGAGAATTAT TACAGAAAGG TTACAAAAAG       1380

AATAAAGTCC CTTTTCATTT TCAAAGCATG GCTGATTTTG GAGAAATGTG GTATAATTTT       1440

TCTTATGGAA AAGATTGTCA TTACAGCAAC TGCTGAAAGT ATTGAACAAG TTGAACAACT       1500

ACTCGAAGCT GGCGTAGACC GTATCTATGT CGGTGAGAAA GATTTTGGTC TTCGTCTGCC       1560

AACGACCTTT AGTTATGACC AATTACGTGA AATCGCTAAG TTGGTTCATG ATGCTGGTAA       1620

GGAATTGATC GTTGCGGTCA ATGCTCTCAT GCACCAAGAT ATGATGGACC GTATCAAGCC       1680

TTTCTTAAAC TTCTTGGAAG AAATCAAGAC AGACTATATT ACGATTGGGG ATGCAGGCGT       1740

CTTTTACGTA GTTAACCGCG ATGGTTATTC ATTTAAGACC ATCTACGATG CTTCAACCAT       1800

GGTAACTAGC AGTCGTCAGA TTAACTTCTG GGGACAAAAG GCTGGCGCAT CTGAGGCTGT       1860

TTTGGCGCGT GAAATTCCAT CAGCTGAACT TTTCAAAATG CCAGAGATTT TGGAAATTCC       1920

TGCTGAAGTT TTGGTTTACG GTGCTAGCGT CATCCATCAT TCTAAACGTC CACTCTTGCA       1980

AAACTACTAT AACTTTACAC ATATCGATGA TGAAAAGACG CATAAACGTG ACCTCTTCTT       2040

GGCTGAGCCA AGTGATCCAG AGAGCCACTA TTCCATTTTT GAAGATAATC ATGGGACCCA       2100

TATCTTTGCC AACAATGACC TTGATTTGAT GATCAAATTA ACAGAATTGG TGGAGCATGG       2160

CTTTACTCGC TGGAAACTAG AAGGGCTCTA CACTCCTGGT CAGAACTTTG TTGAGATTGC       2220

AAAACTCTTT ATCCAAGCGC GTAGCTTGAT TCAAGAGGGC AACTTTAGTC ATGCTCAAGC       2280

CTTCTTGCTG GATGAAGAAG TTCGTAAACT TCACCCTAAA AACCGTTTCC TTGATACAGG       2340

ATTTTATGAC TACGATCCTG ACATGGTTAG ATAAAATACA TGATTCGTTG AGAGAAGGAA       2400

GATGCAAACA TTTCTTCTCT CAATTTTTCG TATTTCTTCA CTATTTTACA AAAATCAGCA       2460

GGCTAGAATG CTCTATTCGA TGGGATTTTT AAGAAAAGTA GTGTTCTTGA GTTTGAAAAT       2520
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1045

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TATCCTATGT TTGCAGGTGC CAAATGGCCC TTTTTTTGGT ATAATTTTTT ATAATGAAAA    2580

CGATTGGTAA TCGCTATGTT GTGGTGGATT TAGAGGCAAC TAGCACAGGT AGTAAGGCTA    2640

AAATTATCCA AGTGGGAATT GTCGTGATTG AGGACGGAGA AATCGTCGAT CACTATACGA    2700

CGGATGTCAA TCCACATGAA CCCTTGGATG CTCATATCAA AGAACTGACA GGATTGACAG    2760

ACCAACGTCT GGCGCAAGCA CCTGATTTTT CGCAAGTTGC CAGAAAAATA TTTGACTTGG    2820

TGGAGGATGG GATTTTTGTA GCCCATAATG TTCAGTTTGA TGCTAATCTC TTGGCGGAAA    2880

ATTTATTTTT TGAAGGCTAT GAGCTAAGAA ACCCTCGTGT TGATACGGTC GAATTGGCCC    2940

AGGTCTTTTT CCCTGAACTG GAAAAATATA GCTTGCCGAT TTTGTGTCGA GAATTAGGAA    3000

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TTTTTTTACG GAAAAAGATG ACCCAGCTTC CTAAAGGTCT CTTGGAACGC TTGCTGGAAA    3120

TGGCTGACGC TCTCCTATAT GAGTCCTACC TGGTTATTGA GGAAACTTAT CGCAACCAAT    3180

CTATCCTGAG TTCTCCAGAC TTGGTCCAAG TTCAAGGTCT ATATTTTAAG AAAACGGAAG    3240

CTTCTCTGGA GCCACGAAAA CTATCTCAAG ACTTTTCTAA AAATATTTCT CTGTTGAACC    3300

TTGAAGTGAG GGAGGAACAA GAAAGTTTTG CTAAAGAGGT TGGCTTGCTA TTGAAAGATG    3360

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CCGCTTTATC TCAATCCAAA GAGCGACAAA TTGTTCTTAG TGTTCCGACA AAGATTCTTC    3480

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CAGACCTTCG TCATGATGGG AATTTATCAT CCCAGAGCTT ATTTGTGACG GAAGATTTTT    3780

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TACTAGAAAG TATTCGCTTT GAGTGTCTCT ACTTGATAGA ACAATTTCAG TCTGGCAAAT    4080

CTAGGAAAAA TATCTTAGAT TCTCTGGACA ATCTCCATCA GTATTTTTCA GAATTGGAAG    4140

TAGAAGACTT TGATGAGCTG GTTCGCTATT TTACAGCTGA AGGTGATTAC TGGCTTGAAG    4200

TAACTGAAAC GAGTCAAAAG AAAATTCAGA TTTCTTCTAC AAAATCAGGC CGTACTCTTC    4260
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1046

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TGTCCTCTTT ACTTCCTGAG AGTTGCCAAG TCTTGGGAGT ATCGGCTACT CTTGAGATTA     4320

GTCAGAGGGT TTCTTTGGCA GACCTTTTAG GCTATCCTGA AGCTAAATTT GTCAAGATTG     4380

AATCTCGGGG AAAACAGGAA CAAGAAGTGG TCATGGTCAA AGATTTCCCT CTGGTAACAG     4440

AAACCTCCTT AGAAGTCTAT GCCAGAGAGG TAGCTGCTTT ACTAGTGGAA ATTCAAGCTT     4500

TCCAGCAACC GATTTTGGTT CTCTTTACCG CTAAAGACAT GCTTCTAGCA GTATCGGATT     4560

TACTTACAGT TAGCCACTTG GCCCAGTATA AAAATGGGGA TGTTCATCAG CTAAAGAAAC     4620

GCTTTGAAAA AGGTGAACAA CAAATCTTGC TTGGTGCAGC AAGTTTCTGG GAGGGAGTTG     4680

ATTTTTCAAG CCATCCTTCT GTGATTCAAG TTGTACCGAG GCTTCCTTTC CAAAATCCTC     4740

AAGAACCCTT GACGAAAAAG ATTAATCAAG AACTGAATCA AGAAGGGAAA AATGCCTTTT     4800

ATGATTATCA ATTGCCAATG GCCATTATTC GTTTAAAACA GGCTTTGGGA AGAAGTATGA     4860

GACGTGAATA CCAACGTTCC TTAACTCTTA TTTTGGATAG GAGAATCGTC GGAAAACGAT     4920

ACGGCAAACA AATAGTAGCA TCTCTAGCAG AAGAAGCGAC TGTTAAAACC ATCTCTCGAT     4980

CCGAAGTTGA CGAGGCTATT GATAGATTTT TTAATGAGCT TTGATAAATA GTATTGTATG     5040

AAAGTATAAG GTTAGTATAT ATGAAACGTT CTCTCGACTC AAGAGTCGAT TACAGTTTGC     5100

TCTTGCCAGT ATTTTTTCTA CTGGTCATCG GTGTGGTGGC TATCTATATA GCCGTTAGTC     5160

ATGATTATCC CAATAATATT CTGCCCATTT TAGGGCAGCA GGTCGCCTGG ATTGCCTTGG     5220

GGCTTGTGAT TGGTTTTGTG GTCATGCTCT TTAATACAGA ATTTCTTTGG AAGGTGACCC     5280

CCTTTCTATA TATTTTAGGC TTGGGACTTA TGATCTTGCC GATTGTATTT TATAATCCAA     5340

GCTTAGTTGC ATCAACGGGT GCCAAAAACT GGGTATCAAT AAATGGAATT ACCCTATTCC     5400

AACCGTCAGA ATTTATGAAG ATATCCTATA TCCTCATGTT GGCTCGTGTC ATTGTCCAAT     5460

TTACAAAGAA ACATAAGGAA TGGAGACGCA CGGTTCCGCT GGACTTTTTG TTAATTTTCT     5520

GGATGATTCT CTTTACCATT CCAGTCCTAG TTCTTTTAGC ACTTCAAAGT GACTTGGGGA     5580

CGGCTTTGGT TTTTGTAGCC ATTTTCTCAG GAATCGTTTT ATTATCAGGG GTTTCTTGGA     5640

AAATTATTAT CCCAGTATTT GTGACTGCTG TAACAGGAGT TGCTGGTTTC TTAGCTATCT     5700

TTATTAGCAA GGACGGACGA GCTTTTCTTC ACCAGATTGG AATGCCGACC TACCAAATTA     5760

ATCGGATTTT GGCTTGGCTC AATCCCTTTG AGTTTGCCCA AACAACGACT TACCAGCAGG     5820

CTCAAGGGCA GATTGCCATT GGGAGTGGTG GCTTATTTGG TCAGGGATTT AATGCTTCGA     5880

ATCTGCTTAT CCCAGTTCGA GAGTCAGATA TGATTTTTAC GGTTATTGCA GAAGATTTTG     5940

GCTTTATTGG CTCTGTCCTG GTTATTGCCC TCTATCTCAT GTTGATTTAC CGTATGTTGA     6000

AGATTACTCT TAAATCAAAT AACCAGTTCT ACACTTATAT TTCCACAGGT TTGATTATGA     6060
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1047

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TGTTGCTCTT CCACATCTTT GAGAATATCG GTGCTGTGAC TGGACTACTT CCTTTGACGG    6120

GGATTCCCTT GCCTTTCATT TCGCAAGGGG GATCAGCTAT TATCAGTAAT CTGATTGGTG    6180

TTGGTTTGCT TTTATCGATG AGTTACCAGA CTAATCTAGC TGAAGAAAAG AGCGGAAAAG    6240

TCCCATTCAA ACGGAAAAAG GTTGTATTAA AACAAATTAA ATAAGGAGAA AATCATGGTA    6300

AAAGTAGCAG TTATATTAGC TCAGGGCTTT GAAGAAATTG AAGCCTTGAC AGTTGTAGAT    6360

GTCTTGCGTC GAGCCAATAT CACATGTGAT ATGGTTGGTT TTGAAGAGCA AGTAACGGGT    6420

TCGCATGCAA TCCAAGTAAG AGCAGATCAT GTCTTTGATG GAGATTTATC AGACTATGAT    6480

ATGATTGTTC TTCCTGGAGG TATGCCTGGT TCTGCACATT TACGTGATAA TCAGACCTTG    6540

ATTCAAGAAT TGCAAAGCTT CGAGCAAGAA GGGAAGAAAC TAGCAGCCAT TTGTGCGGCA    6600

CCAATTGCCC TCAATCAAGC AGAGATATTG AAAAATAAGC GATACACTTG TTATGACGGC    6660

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AATCAGTAAA ACGGGAGTTA TTCTCTCGTT TTTTATGTGG AAAACTCAGG GAAATCATCG    6900

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GACATTTCAA ATCAAGGTGG CCGTCATTTT TTGGTCTCTC ATCGAAATGA TCAGGTTTTG    7260

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GGCTTTAAGA GAAAGCCAAA TCCCGAATCC ATGCTTTATT TAAGAGAAAA GTATCAGATT    7380

AGCTCTGGTC TTGTCATTGG TGATCGGCCG ATTGATATCG AAGCAGGTCA AGCTGCAGGA    7440

CTTGATACCC ACTTGTTTAC CAGTATCGTG AATTTAAGAC AAGTATTAGA CATATAAGAA    7500

AAAGGAATAA GATGACAGAA GAAATCAAAA ATCTGCAGGC ACAGGATTAT GATGCCAGTC    7560

AAATTCAAGT TTTAGAGGGC TTAGAGGCTG TTCGTATGCG TCCAGGGATG TACATTGGAT    7620

CAACCTCAAA AGAAGGTCTT CACCATCTAG TCTGGGAAAT TGTTGATAAC TCAATTGACG    7680

AGGCCTTGGC AGGATTTGCC AGCCATATTC AAGTTTTTAT TGAGCCAGAT GATTCGATTA    7740

CTGTTGTGGA TGATGGGCGT GGTATCCCAG TCGATATTCA GGAAAAAACA GGCCGTCCTG    7800
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1048

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CTGTTGAGAC CGTCTTTACA GTCCTTCACG CTGGAGGAAA GTTCGGCGGT GGTGGATACA    7860

AGGTTTCAGG TGGTCTTCAC GGGGTGGGGT CGTCAGTAGT TAATGCCCTT TCCACTCAAT    7920

TAGACGTTCA TGTTCACAAA AATGGTAAGA TTCATTACCA AGAATACCGT CGTGGTCATG    7980

TTGTCGCAGA TCTTGAAATA GTTGGAGATA CGGATAAAAC AGGAACAACT GTTCACTTCA    8040

CACCGGACCC AAAAATCTTC ACTGAAACAA CAATCTTTGA TTTTGATAAA TTAAATAAAC    8100

GGATTCAAGA GTTGGCCTTT CTAAATCGCG GTCTTCAAAT TTCAATTACA GATAAGCGCC    8160

AAGGTTTGGA ACAAACCAAG CATTATCATT ATGAAGGTGG GATTGCTAGT TACGTTGAAT    8220

ATATCAACGA GAACAAGGAT GTAATCTTTG ATACACCAAT CTATACAGAC GGTGAGATGG    8280

ATGATATCAC AGTTGAGGTA GCCATGCAGT ACACAACTGG TTACCATGAA AATGTCATGA    8340

GTTTCGCCAA TAATATTCAT ACCCATGAAG GTGGAACACA TGAACAAGGT TTCCGTACAG    8400

CCTTGACACG TGTTATCAAC GATTATGCTC GTAAAAATAA GTTACTGAAA GACAATGAAG    8460

ATAATTTAAC AGGGGAAGAT GTTCGCGAAG GCTTAACTGC AGTTATCTCA GTTAAACACC    8520

CAAATCCACA GTTTGAAGGA CAAACCAAGA CCAAATTGGG AAATAGCGAA GTGGTCAAGA    8580

TTACCAATCG CCTCTTCAGT GAAGCTTTCT CCGATTTCCT CATGGAAAAT CCACAGATTG    8640

CCAAACGTAT CGTAGAAAAA GGAATTTTGG CTGCCAAGGC TCGTGTGGCT GCCAAGCGTG    8700

CGCGTGAAGT CACACGTAAA AAATCTGGTT TGGAAATTTC CAACCTTCCA GGGAAACTAG    8760

CAGACTGTTC TTCTAATAAC CCTGCTGAAA CAGAACTCTT CATCGTCGAA GGAGACTCAG    8820

CTGGTGGATC AGCCAAATCT GGTCGTAACC GTGAGTTTCA GGCTATCCTT CCAATTCGCG    8880

GTAAGATTTT GAACGTTGAA AAAGCAAGTA TGGATAAGAT TCTAGCCAAC GAAGAAATTC    8940

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TTCTTTTAAC CTTGATTTAT CGTTATATGA AACCAATCCT AGAAGCTGGT TATGTTTATA    9120

TTGCCCAACC ACCAATCTAT GGTGTCAAGG TTGGAAGCGA GATTAAAGAA TATATCCAGC    9180

CGGGTGCAGA TCAAGAAATC AAACTCCAAG AAGCTTTAGC CCGTTATAGT GAAGGTCGTA    9240

CCAAACCGAC TATTCAGCGT TATAAGGGGC TAGGTGAAAT GGACGATCAT CAGCTGTGGG    9300

AAACAACCAT GGATCCCGAA CATCGCTTGA TGGCTAGAGT TTCTGTAGAT GATGTGCAGA    9360

AGCAGATAAA ATCTTTGATA TGTTGATGGG GATCGAGTTG TCCTCGTCG              9409
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(2) INFORMATION FOR SEQ ID NO: 162:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 6415 base pairs
        (B) TYPE: nucleic acid

1049
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(C) STRANDEDNESS: double
(D) TOPOLOGY: linear


     (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 162:

CCTGGGAAAG TCTTGAAAAT TATGATAGAA TGGTGGAAGG AAAAATTCAG GAGAGTAGTA      60

GTGACTCAAA ATGTTGAAAG TCTTCTCGTA TCCATTGTAA TCAGTGCATA CAATGAAGAA     120

AAATATCTGC CTGGTCTAAT TGAAGACTTA AAAAATCAAA CCTATCCTAA AGAGGATATT     180

GAAATTCTAT TTATAAATGC TATGTCCACA GATGGGACCA CAGCTATCAT TCAGCAATTT     240

ATAAAGGAAG ATACAGAGTT TAACTCAATT AGATTGTATA ACAATCCTAA GAAAAATCAA     300

GCTAGTGGTT TTAACCTGGG AGTTAAACAT TCTGTAGGGG ACCTTATTTT AAAAATTGAT     360

GCTCATTCAA AAGTTACTGA GACTTTTGTA ATGAACAATG TGGCTATTAT TCAACAAGGT     420

GAATTTGTCT GTGGGGGGCC TAGACCGACG ATTGTCGAAG GAAAAGGAAA ATGGGCAGAG     480

ACCTTGCATC TTGTTGAGGA AAAATATGTTT GGCAGTAGCA TTGCCAATTA TCGAAATAGT     540

TCTGAGGATA GATATGTTTC TTCTATTTTT CATGGAATGT ATAAACGAGA GGTTTTCCAG     600

AAGGTTGGTT TAGTAAATGA GCAACTTGGC CGAACTGAAG ATAATGATAT TCATTATAGA     660

ATTCGAGAAT ATGGTTATAA AATCCGCTAT AGCCCAAGTA TTCTATCTTA TCAGTATATT     720

CGACCAACAT TCAAGAAAAT GCTGCATCAA AAGTATTCAA ATGGTTTGTG GATTGGCTTG     780

ACAAGTCATG TTCAGTTTAA GTGTTTATCA TTATTTCACT ATGTTCCTTG TTTATTTGTT     840

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TTAGGTGCCT ATTTTCTACT TTTGTCATTA CTCACTTTGC TGACTTTATT AAAACATAAA     960

AATGGATTTC TAATTGTGAT GCCCTTTATT TTATTTTCCA TTCACTTTGC TTATGGCCTT    1020

GGGACGATTG TAGGTTTAAT TAGAGGATTT AAATGGAAGA AGGAGTACAA GAGAACAATA    1080

ATTTATTTGG ATAAAATAAG CCAAATAAAT CAAAATATGC TATAATAACA ATATAGTAAA    1140

ACTCTTTTAA GGAGGAGTAG ATTTCTATGA ATAAAAAACT AACAGATTAT GTGATTGATC    1200

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CTGTTGACTA CATTATCTAT ACGAGTTTGG CCTTCCTGTT CTATCAATTG ATGATTGGTT    1380

TTTGGGGGTT GAACGCGAGC ATTAGTCGTT ACAGCAAGAT TACGGATTTC ATGAAAATCT    1440

TTTTTGGTGT GACTGCTAGC AGTGTCTTGT CATATAGTAT CTGTTATGCC TTCTTGCCAC    1500

TCTTCTCCAT CCGTTTCATC ATTCTCTTTA TCTTGTTGAG TACCTTCTTG ATTTTATTGC    1560
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                              1050
CACGGATTAC TTGGCAGTTA ATCTACTCCA GACGCAAAAA AGGTAGTGGT GATGGAGAAC     1620

ACCGTCGGAC CTTCTTGATT GGTGCCGGTG ATGGTGGGGC TCTTTTTATG GATAGTTACC     1680

AACATCCAAC CAGTGAATTA GAACTGGTCG GTATTTTGGA TAAGGATTCT AAGAAAAAGG     1740

GTCAAAAACT TGGTGGTATT CCTGTTTTGG GCTCTTATGA CAATCTGCCT GAATTAGCCA     1800

AACGCCATCA AATCGAGCGT GTCATCGTTG CGATTCCGTC GCTGGATCCG TCAGAATATG     1860

AGCGTATCTT GCAGATGTGT AATAAGCTGG GTGTCAAATG TTACAAGATG CCTAAGGTTG     1920

AAACTGTTGT TCAGGGCCTT CACCAAGCAG GTACTGGCTT CCAAAAAATT GATATTACGG     1980

ACCTTTTGGG TCGTCAGGAA ATCCGTCTTG ACGAATCGCG TCTGGGTGCA GAACTGACAG     2040

GTAAGACCAT CTTAGTCACA GGAGCTGGAG GTTCAATCGG TTCTGAAATC TGTCGTCAAG     2100

TTAGTCGCTT CAATCCTGAA CGCATTGTCT TGCTCGGTCA TGGGGAAAAC TCAATCTACC     2160

TTGTTTATCA TGAATTGATT CGTAAGTTCC AAGGGATTGA TTATGTACCT GTGATTGCGG     2220

ACATTCAAGA CTATGATCGT TTGTTGCAAG TCTTTGAGCA GTACAAACCT GCTATTGTTT     2280

ATCATGCGGC AGCCCACAAG CATGTTCCTA TGATGGAGCG CAATCCAAAA GAAGCCTTCA     2340

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CAGTTCGTTT TGGGAATGTT CTTGGTAGCC GTGGTAGTGT CATTCCAGTC TTTGAACGTC     2580

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GCCTTGCCGT ATATGGTTAC TGACTtCGTC AGTTCTATCC ACAACCTCAA AACAGTGTTT     3180

TGAGytGACT TCGTCAGTTC TATCCACAAC CTCAAAACAG TGTTTTGAGc TGACtTCGTC     3240

AGTTCTATCC ACAACCTCAA AACAGTGTTT TGAGCTGAcT TCGTCAGTTC CATCCACAAC     3300

CTTAAAACAG TGTTTTGAGy TGACnTTCGT CAGTTCCATC TACAACCTTA AAACAGTGTT     3360
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1051

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TTGAGCTGCC CGCAGCTAGT TTCCTAGTTT GCTCTTTGAT TTTCATTGAG TATTACTTCA        3420

TTTTCTTCTG AAATGGAATT GTTACCCAGT CTATGCTATT GAAAATACGC CAAAACTTCT        3480

AAGGGTTTGT GAGCGATATA ATCAGGTTGA TAGTTTAGTA GATCTGCTTG CTCTCCAAAT        3540

CCCCAAGTGA TGGCCAATTT CTGAATACCT GTTTCTCGAG CTCCCAGCAT ATCAAACTTG        3600

GTATCTCCGA TGATGATGGC TTGTTCTGGT GCTAGTTGAT GTGTCTGCAA GGCTTGGTGA        3660

ATGACATCTG CCTTATGGGG TGCTTCAGGG CTAGAACCAT AAATGCCATC AAAGAAATGA        3720

TGGATTTCCA AGTTTTTTGC CATGTCTTGA GCAGTAGATG TATCCTTTGT CGTGGTGATG        3780

TAGAGTGGAT AACTGCTCGA TAACTCCTCA AGCAAGTCTA TAATCTGAGG AAAGAGTTGA        3840

GCTTCATAGA TGCCTTTTGC CTTATAGTAA GAACGATATA TCTGCACGGC TTCAGAAATT        3900

TGGTCTTTGG ACAGGCAGGT CGCAAAACTA CTTTCGAGAG GTGGTCCCAT AAAACCACGA        3960

ATAGTTTTGG CATCAGGGCT AGGCACCCCC AGCTCTTTAA AGGTATAGGT AAAGGCATTG        4020

TGAATCCCGA TAGAACTATC AACGAGGGTT CCATCCAAAT CGAAAAAAAT CGCTGTGATA        4080

GAGGTCATGG TTTCTCCTAT TTGATAAGCT TATTCTCCGA AAATTTCTTT TTGGAGGCGA        4140

CGACCAGTAG GGGTGGTAGC GAGTCCACCT TCAGCTGTTT CACGAAAGGC AGTTGGCATG        4200

CTTGCTCCTA CTTGGTACAT GGCATCGATC ACTTCATCCA CAGGGATTTT AGATTCGATA        4260

CCTGCCAAGG CCATGTCTGC TGCGATGAAA GCAAAGCTAG CTCCCATGGC ATTACGTTTG        4320

ACACAGGGAA CTTCGACCAA ACCTGCAACA GGGTCACAGA TGAGGCCTAG CATATTTTTA        4380

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GCGGCAGCAC TCATAGCAGA GGCTGAACCA ACTTCAGCTT GACACCCACC CTCAGCACCT        4500

GAGATGGAGG CATTGTTTGC GATGACTAGT CCAAAGGCAC CAGCAGCAAA GAGGAAATCC        4560

AATTGTTGCT CGTGGCTGAG GTCTAATTTT TCAATAGCAG CAGTGAGAAC GGATGGCAGA        4620

CAGCCAGCAC TTCCAGCGGT TGGAGTGGCA CAGACCAAGC CCATTTTGGC ATTGTGTTCA        4680

TTGACTGCGA TGGCATTTCG GGCAGCCGAG AGAATCGTAT AATCTGACAG AGTTTTTCCG        4740

TTTTCGATGT AGTGATCCAA TTTGGCAGCA TCTCCACCTG TCAGGCCACT ACGAGATTTA        4800

TTTTCATTGA GGCCAAGTTG GACAGAGGCT TTCATAACTT CCAGATTGCG TTCCATGAGA        4860

AGGAAGACTT CTTCACGTTC GCGACCGGTC AATTCAAACT CTGTTGTAAT CATGAGTTCT        4920

GCGACATTTC CTTGAAAGTC CAGATCTGCT TGCTCGACCA ATTCTTTGAT AGAATAAAAC        4980

ATGCTTCCTC CTATTTAAAG AAATTGACAT TGTGGAGATG AGGGATTTTT CGAATTTCTT        5040

CGATAGCCTC ATCACAGTTG CGACTGTCAA CTTCGATAAT CATAATGGCT TTTTCACCAG        5100
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1052

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CTTTTTCACG AGTGACATTC ATCTGGGCGA TATTGATACC ATAGCGGGAA AGCGCCTCTG      5160

TAACAAGGGC AATCATACCT GGAATATCTT GATGAACGAT GATGATAGTC GGTGTATTCA      5220

TATTGAGAGA GACGGCAAAA CCATTGAGTT CGGTTACCTG AATATTTCCT CCACCGATAG      5280

AAATACCAGT CACGCTGATG GTCTTGTGGG CATTTTTAAC AGTAATTTTA GTGGTGTTAG      5340

GGTGAGGGGC ATTGCTGTCT TTCTGAATGG TCCAGACAAT CTTGATACCA CGCTTGTGGG      5400

CAATTTCCAG ACTATTTGGA ATTTCAGGAT CATCTGTATC CATTCCTAAA ATACCTGCAA      5460

CAAGGGCTAG GTCTGTTCCG TGACCACGAT AGGTCTTGGC AAATGAGTTA AAAAGTTGGA      5520

ATTCAACTTC TGTCGGAGTA TCATCAAAAA TGGAAGAGAC AATCTTCCCA ATACGAACAG      5580

CACCAGCGGT ATGGCTACTA GATGGGCCAA TCATAACTGG TCCGATGATA TCAAAGACAG      5640

ATTGAAAACG AAGTGATTTC ATCAGTTTCC CCTTATAAAA ATTCTTATCT CTATTATATC      5700

AAAGAATGAG GGGCTTGGCT TTAATTGTGG ATGAAAACCT TTCTAATACC TCAAATAGCA      5760

TAAAAATAGT ATCTTTTATG ACAAAAAACA CCTTATTTAG GGAAATAAAA AATAATTTTG      5820

TAATATTTCT ACATAAAAGT GTCAAGAAAC GGTAATATTT AAAGGGTATG ATAGAACTAT      5880

AGAAAGAAGG AGAATTTTCG AATATGAAAT CAATAACTAA AAAGATTAAA GCAACTCTTG      5940

CAGGAGTAGC TGCCTTGTTT GCAGTATTTG CTCCATCATT TGTATCTGCT CAAGAATCAT      6000

CAACTTACAC TGTTAAAGAA GGTGATACAC TTTCAGAAAT CGCTGAAACT CACAACACAA      6060

CAGTTGAAAA ATTGGCAGAA AACAACCACA TTGATAACAT TCATTTGATT TATGTTGATC      6120

AAGAGTTGGT TATCGATGGC CCTGTAGCGC CTGTTGCAAC ACCAGCGCCA GCTACTTATG      6180

CGGCACCAGC CGCTCAAGAT GAAACTGTTT CAGCTCCAGT AGCAGAAACT CCAGTAGTAA      6240

GTGAAACAGT TGTTTCAACT GTAAGCGGAT CTGAAGCAGA AGCCAAAGAA TGGATCGCTC      6300

AAAAAGAATC AGGTGGTAGT ATACAGCTAC AAATGGACGT TATATCGGAC GTTACCAATT      6360

AACAGATTCA TACCTGAACG GTGACTACTC AGCTGAAAAC CAAGAACGGG TACCG          6415
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(2) INFORMATION FOR SEQ ID NO: 163:

      (i) SEQUENCE CHARACTERISTICS:
          (A) LENGTH: 8494 base pairs
          (B) TYPE: nucleic acid
          (C) STRANDEDNESS: double
          (D) TOPOLOGY: linear


      (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 163:

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TACCCCTTTC GAATTTTGGC AAAAATTCGG TAAGGCTTTG ATGGTAGTTA TCGCGGTTAT        60

GCCGGCTGCT GGTTTGATGA TTTCAATCGG TAAGTCTATC GTGATGATTA ACCCAACCTT       120
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1053

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TGCACCACTT GTCATCACAG GTGGAATTCT TGAGCAAATC GGTTGGGGGG TTATCGGTAA      180

CCTTCACATT TTGTTTGCCC TAGCCATTGG AGGAAGCTGG GCTAAAGAAC GTGCTGGTGG      240

TGCTTTCGCC GCTGGTCTTG CCTTCATCTT GATTAACCGT ATCACTGGTA CAATCTTTGG      300

TGTATCAGGC GATATGTTGA AAAATCCAGA TGCTATGGTA ACTACTTTCT TTGGTGGTTC      360

AATCAAAGTT GCTGATTACT TTATCAGTGT TCTTGAAGCT CCAGCCTTGA ACATGGGGGT      420

ATTCGTAGGG ATTATCTCAG GTTTTGTAGG GGCAACTGCT TACAACAAAT ACTACAACTT      480

CCGTAAACTT CCTGATGCAC TTTCATTCTT CAACGGGAAA CGTTTCGTAC CATTTGTAGT      540

TATTCTTCGT TCAGCAATCG CTGCAATTCT ACTTGCTGCT TTCTGGCCAG TAGTTCAAAC      600

AGGTATCAAT AACTTCGGTA TCTGGATTGC CAACTCACAA GAAACTGCTC CAATTCTTGC      660

ACCATTCTTG TATGGTACTT TGGAACGTTT GCTCTTGCCA TTTGGTCTTC ACCACATGTT      720

GACTATCCCA ATGAACTACA CAGCTCTTGG TGGTACTTAT GACATTTTAA CTGGTGCAGC      780

TAAAGGTACT CAAGTATTCG GTCAAGACCC ACTATGGCTT GCATGGGTAA CAGACCTTGT      840

AAACCTTAAA GGTACTGATG CTAGTCAATA TCAACACTTG TTAGATACAG TACATCCAGC      900

TCGTTTCAAA GTTGGACAAA TGATCGGTTC ATTCGGTATC TTGATGGGTG TGATTGTTGC      960

TATCTACCGT AATGTTGATG CTGACAAGAA ACATAAATAC AAAGGTATGA TGATTGCAAC     1020

AGCTCTTGCA ACATTCTTGA CAGGGGTTAC TGAACCAATC GAATACATGT TCATGTTCAT     1080

CGCAACACCT ATGTATCTTG TTTACTCACT TGTTCAAGGT GCTGCCTTCG CTATGGCTGA     1140

CGTCGTAAAC CTACGTATGC ACTCATTCGG TTCAATCGAG TTCTTGACTC GTACACCTAT     1200

TGCAATCAGT GCTGGTATTG GTATGGATAT CGTTAACTTC GTTTGGGTAA CTGTTCTCTT     1260

TGCTGTAATC ATGTACTTTA TCGCAAACTT CATGATTCAA AAATTCAACT ACGCAACTCC     1320

AGGGCGCAAC GGAAACTACG AAACTGCTGA AGGTTCAGAA GAAACCAGCA GCGAAGTGAA     1380

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GGTTCAAGCT ATCTACGGTC CAAAAGCTGA CATTTTGAAA TCTGATATCC AAGATATCCT     1620

TGATTCAGGT GAAATCATTC CTGAAACTCT TCCAAGCCAA ATGACTGAAG CACAACAAAA     1680

CACTGTTCAc TTCAAAGATC TTACTGAGGA AGTTTACTCA GTAGCAGACG GTCAAGTTGT     1740

TGCTTTGGAA CAAGTAAAGG ATCCAGTATT TGCTCAAAAA ATGATGGGTG ATGGATTTGC     1800

AGTAGAACCT GCAAATGGAA ACATTGTATC TCCAGTTTCA GGTACTGTGT CAAGCATCTT     1860
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1054

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CCCAACAAAA CATGCTTTTG GTATTGTGAC GGAAGCAGGT CTTGAAGTAT TGGTTCACAT   1920

TGGTTTGGAC ACAGTAAGTC TTGAAGGTAA ACCATTTACA GTTCATGTTG CTGAAGGACA   1980

AAAAGTTGCA GCAGGAGATC TCCTTGTCAC AGCTGACTTG GATGCTATCC GTGCAGCAGG   2040

ACGTGAAACT TCAACAGTAG TTGTCTTCAC AAATGGTGAT GCAATTAAAT CAGTTAAGTT   2100

AGAAAAAACA GGTTCTCTTG CAGCTAAAAC AGCAGTTGCT AAAGTAGAAT TGTAATATAC   2160

TTGAGGTTGG AAGCTGTATT CCAACCTCTT ATTTTGGGAG AAAAGAATGA AATTTTTAAC   2220

ACTCAATACT CACAGTTGGA TGGAGAAAGA AGCAGAGGAA AAATTCCAGA TTTTGCTTGA   2280

AGATATTCTT GAAAAGGACT ATGATTTGAT TTGTTTTCAA GAAATCAATC AGGAGATGAC   2340

CTCGTCAGAG GTGGAGGTTA ATGACCTTTA TCAAGCTTTG CCAGCAGCTG AGCCTATTCA   2400

CCAAGACCAT TATGTTAGAC TCTTGGTTGA AAAGTTGTCT GAGCAAGGGA AAAATTACTA   2460

CTGGACCTGG GCCTATAACC ATATCGGCTA TAACCGCTAC CACGAAGGTG TGGCTATCTT   2520

GTCTAAAACA CCTATTGAAG CCAGAGAAAT TTTGGTTTCA GATGTGGATG ATCCAACAGA   2580

CTATCATACT CGCCGTGTTG CCCTAGCTGA AACTGTAGTC GATGGCAAGG AGCTAGCAGT   2640

TGCCAGTGTT CATCTCTCTT GGTGGGATAA AGGTTTCCAA GAAGAATGGG CACGATTTGA   2700

GGCTGTCTTG AAAAAATTGA ACAAGCCACT TTTACTAGCT GGAGATTTCA ACAATCCGGC   2760

TGGACAGGAA GGTTACCAAG CTATTTTAGC TAGTCCATTA GGCTTACAAG ACGCATTTGA   2820

AGTTGCTCAA GAGAAAGTG GTAGCTATAC TGTTCCGCCT GAAATTGATG GCTGGAAAGG   2880

GAACACTGAA CCCCTTCGAA TCGATTATGT CTTTACTACC AAAGAGTTAG CGGTGGAAAA   2940

TTTACATGTC GTATTTGATG GTAACAAGAG TCCACAAGTG AGTGATCACT ATGGCTTGAA   3000

TGCTATATTA AACTGGAAAT AATAACTGAA AAGAGGTTGG AACTATAAAA TTCCAGCCTT   3060

TTCTTACTAG AGAAGCTACT GGAAATAGCC TAAATAAGTG AGACTACTGT AATGGAATAA   3120

AATATGGTAT AATTGATAAG GTAGATAGAA TCGAGGATGT TATGTCATTT ACGAAATTTC   3180

AATTTAAAAA CTATATTAGA GAAGCCTTGA AGGAGTTAAA ATTTACAACT CCAACAGAGG   3240

TGCAAGACAA GTTGATTCCT ATTGTTTTGG CAGGTCGTGA CCTAGTAGGA GAATCAAAAA   3300

CAGGTTCAGG TAAGACTCAT ACTTTCTTGT TACCGATTTT CCAGCAATTA GATGAAGCTA   3360

GCGATAGTGT ACAAGCAGTG ATTACTGCAC CGAGTCGTGA GTTGGCTACT CAAATTTACC   3420

AAGTAGCGCG TCAGATTTCA GCTCACTCAG ATGTCGAAGT TCGTGTGGTT AATTATGTGG   3480

GTGGTACGGA TAAGGCTCGC CAGATTGAGA AATTGGCAAG CAATCAGCCT CATATTGTTA   3540

TTGGAACACC AGGCCGTATC TACGACTTGG TTAAATCTGG TGATTTAGCT ATTCATAAAG   3600

CCAAGACATT TGTTGTTGAT GAAGCAGATA TGACCTTGGA TATGGGATTC TTGGAAACTG   3660
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1055

TTGATAAGAT TGCTGGCAGT CTTCCAAAAG ACTTGCAATT CATGGTCTTC TCAGCGACTA          3720

TCCCACAAAA ACTGCAACCA TTCTTGAAAA AATACTTATC AAATCCTGTT ATGGAGAAAA          3780

TTAAGACCAA AACGGTTATT TCTGACACCA TTGATAATTG GTTGATTTCG ACCAAGGGAC          3840

ATGATAAGAA TGCTCAAATT TACCAGTTGA CTCAGTTGAT GCAGCCGTAT TTGGCAATGA          3900

TTTTTGTTAA CACTAAAACG CGTGCTGATG AATTGCATTC ATATCTGACT GCTCAAGGCT          3960

TGAAGGTTGC AAAAATCCAT GGCGATATTG CCCCTCGTGA ACGCAAGCGA ATCATGAATC          4020

AGGTGCAAAA TCTGGATTTT GAGTATATTG TCGCAACAGA TTTGGCAGCG CGTGGGATTG          4080

ACATTGAAGG TGTCAGCCAT GTCATCAATG ATGCCATTCC GCAAGACTTA TCTTTTTTTG          4140

TTCATCGTGT TGGTCGTACT GGACGAAATG GCCTACCAGG TACAGCTATT ACCCTTTATC          4200

AGCCAAGTGA TGACTCGGAT ATCCGTGAGT TGGAGAAATT GGGAATCAAG TTTAGTCCTA          4260

AGATGGTCAA AGACGGGGAA TTTCAAGATA CCTATGACCG TGATCGTCGT GCCAACCGTG          4320

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AAGTCAAACC GGGTTATAAG AAGAAAATTC AATGGGCGGT TGATGAAAAG CGCCGTAAAA          4440

CCAAGCGTGC TGAAAATCGC GCTCGCGGTC GTGCAGAGCG TAAAGCTAAA CGCCAAACAT          4500

TTTAATAGAA ATTGTTGGAG TATTGAGCTC CAACTTTTTT ATTTATGAGA ACGAACTATC          4560

TAAACCGAAA CACTACATTA AAGACTGCAA ATTGCGATTA AAAATGGTAT AATGATAAAG          4620

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GTAACTCTAT AACAATATTT TTTAAGGGGG GACATTTTTA TGTCAGAGCG TAAATTATTC          4740

ACGTCTGAAT CTGTATCTGA GGGGCATCCG GATAAGATTG CAGACCAAAT TTCAGATGCG          4800

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GCTGAGACGG TGGGAGTACA CCCATCTTTG GTGGAACAAT CTCCTGACAT CGCTCAAGGT          5040

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GCAGGTGACC AAGGGCTCAT GTTTGGATTT GCAGTAGATG AAACAGAAGA GCTTATGCCA          5160

TTGCCAATTG CACTCAGTCA TAAATTGGTT CGTCGTCTGG CAGAACTTCG TAAGTCTGGA          5220

GAAATTAGCT ATCTCCGTCC AGATGCAAAA TCACAAGTTA CAGTTGAGTA CGATGAAAAT          5280

GACCGTCCGG TACGTGTAGA TACAGTCGTT ATTTCTACTC AGCATGATCC AGAGGCCACT          5340

AATGAACAAA TCCATCAAGA TGTGATTGAC AAGGTCATCA AAGAAGTTAT TCCATCTTCT          5400

1056

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TATCTTGATG ATAAGACAAA ATTCTTTATC AATCCGACAG GTCGTTTTGT AATCGGTGGT        5460

CCTCAAGGGG ACTCAGGTTT GACTGGTCGT AAGATTATTG TAGATACTTA TGGTGGCTAC        5520

TCTCGTCATG GTGGTGGTGC CTTCTCTGGT AAAGATGCGA CTAAGGTGGA TCGTTCAGCC        5580

TCTTATGCGG CTCGCTATAT TGCCAAGAAT ATCGTTGCAG CAGACCTTGC TAAGAAGGCA        5640

GAAGTGCAGT TGGCCTATGC TATCGGTGTT GCGCAACCTG TTTCTGTTCG TATCGATACT        5700

TTCGGTACAG GAACAGTAGC TGAAAGTCAA CTTGAAAAAG CGGCTCGTCA AATCTTTGAC        5760

CTTCGCCCTG CAGGGATTAT CCAAATGCTG GACCTCAAGC GTCCAATTTA CCGTCAAACA        5820

TCGGCTTACG GTCACATGGG ACGTACAGAT ATTGATCTTC CATGGGAACG TTTGGATAAG        5880

GTAGATGCTT TGAAAGAAGC AGTAAAATAA GATTTTAAGA GGGGAACGTC CTCTCTTTTT        5940

TATAGTTTTT AACTATACTG GGATACTGTT CTGAAAATCC ATTTTGCGAA AGTAGAGATT        6000

TACATGTATA GTAGATTGAA ACTAGAATAG TACACCTCAA CTTCTAAAAC ATTGTTAGCA        6060

ATCAATTTGA CTGTCCTGAT CGATTTCTCC TGTTCTTGTT TCATTTTACT ATATTTCTTT        6120

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AAAGTTTTAT TCGTTATCAC TTGACTATTG CAAGGTTTTC TAGAGCAACA GAGTCATGGA        6240

ATGGACTCAT GGTTGAGATT TCTCCTTGTT GCTTGGACTT CATTCAAAAG TCTGTTACCC        6300

AAGCCTTGTT CAAACTTCTA ATACACTAGC TGTTTCCATA GCATGACTTC TGTACTAGAC        6360

TTTCTTTTCC GAATAAATAG ATAGAACCAC AGAATCTAGT AAACCTAGAA TTAAAATTAT        6420

GGTATAAATAT TAGCAATAAA AGAAATCTGG AGGATTAGAA TCATGGTATC AACGAAAACA        6480

CAAATTGCTG GTTTTGAGTT TGACAATTGC TTGATGAATG CAGCAGGTGT GGCTTGTATG        6540

ACGATAGAGG AGTTAGAAGA GGTCAAAAAC TCAGCGGCAG GAACCTTTGT TACTAAGACA        6600

GCGACCTTGG ACTTCCGTCA GGGGAATCCT GAGCCACGCT ACCAAGATGT TCCACTTGGT        6660

TCCATCAACT CTATGGGCTT GCCAAATAAT GGCTTAGACT ATTATTTGGA TTATCTTTTA        6720

GATTTGCAGG AAAAAGAGTC GAACCGAACT TTCTTCTTAT CTCTGGTCGG CATGTCTCCA        6780

GAGGAAACCC ATACTATTTT GAAAAAAGTC CAAGAGAGTG ATTTTCGTGG TCTGACTGAG        6840

CTAAATCTTT CCTGTCCAAA TGTTCCAGGT AAACCTCAGA TTGCCTATGA TTTTGAGACA        6900

ACAGACCGGA TTTTGGCAGA AGTGTTTGCT TACTTCACCA AACCTCTTGG AATTAAATTG        6960

CCACCTTATT TTGATATTGT TCACTTTGAC CAAGCGGCAG CTATTTTCAA CAAATATCCG        7020

CTCAAGTTTG TCAACTGCGT TAACTCTATC GGAAACGGCC TCTATATAGA AGACGAATCT        7080

GTCGTTATTC GGCCTAAGAA TGGTTTTGGT GGAATTGGTG AGAATACAT CAAACCGACT         7140

GCTTTAGCCA ATGTTCACGC CTTTTATCAA CGTTTAAATC CTCAAATCCA AATTATCGGA        7200
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1057

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ACAGGTGGCG TTCTGACTGG TCGAGATGCC TTTGAACACA TCCTCTGTGG AGCAAGTATG      7260

GTGCAGGTGG GAACGACCCT TCACAAAGAA GGCGTCAGTG CTTTTGACCG CATTACCAAT      7320

GAACTGAAAG CAATCATGGT GGAAAAAGGC TACGAGAGCT TAGAAGATTT CCGTGGGAAA      7380

TTGCGCTATA TTGACTAAAT TAAATCGAAA AATCTGAAGA AAGGAGAGAC GATGCTAGCC      7440

ATTGAAGAAA GTCAGAAGTT GACTTTATCA AATTTACCGA GCCTGAGCCT ATTTACAGGG      7500

ACAGATCAGG GTCAGTTTGA AGTGATGAAG AGTCAAATGT TGAAACAGAT TGGGTATGAT      7560

TCTGCTGACC TCAACTTTGC CTACTTTGAT ATGAAAGAAG TAGTTTACAA GGATGTGGAA      7620

CTGGAGTTGG TCAGCCTTCC TTTCTTTGCG GATGAGAAAA TCGTGATATT AGATTATTTT      7680

ATGGATATCA CGACTGCTAA GAAACGCTTT TTGACAGATG ATGAGCTTAA GTCATTTGAG      7740

GAATACCTTG ACAATCCTTC TCCAACAACC AAGTTGATAA TCTTTGCAGA AGGAAAGCTG      7800

GATAGCAAAA GACGGTTAGT CAAATTACTT AAGCGTGATG CCAAGGCCTT CGATGCAGTA      7860

GAAGTAAAAG AACAAGAATT GCGCCAGTAC TTCCAAAAGT GGAGTCAGAA ACAAGGTCTG      7920

CAGTTTACCA ATCATTCTTT TGAAAATCTC CTCATCAAGT CGGGGTTTCA ATTTAGCGAA      7980

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GATATTGTTA ACGCAATTCC CAAGACTTGC AGGACAATAT TTTTGATTTA ACTCAGTTTA      8100

TTCTGACTAA AAAGATGGAT CAGGCGCGCG ATTTGGTGAG AGACTTGACC TTGCAAGGGG      8160

AAGATGAAAT CAAACTGATT GCAGTCATGC TGGGACAATT TCGGACTTTT ACTCAGGTGA      8220

AGATTTTGGC GGAGTCTGGC CAAACAGAAT CGCAGATTGC AAGTAGTTTA GGTAGTTATC      8280

TGGGACGTAA CCCAAATCCT TATCAAATCA AGTTTGCATT AAGAGATTCG AGAGGACTTT      8340

CTTTGAGCTT TTTGAAGCAA GCTATTTCCT ATTTGATTGA GACAGACTAT CAGATTAAGA      8400

CAGGTCTTTA TGAAAAAGGT TTCCTTTTTG AAAAGGCACT CTTACAGATT GCTAGTCAGG      8460

TCAATTGACA TTTGTTGAAA CTACTAACCC GCGG                                 8494
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(2) INFORMATION FOR SEQ ID NO: 164:

        (i) SEQUENCE CHARACTERISTICS:
            (A) LENGTH: 9707 base pairs
            (B) TYPE: nucleic acid
            (C) STRANDEDNESS: double
            (D) TOPOLOGY: linear


    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 164:

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CCGGTCAGTT CGTTCAGTAC AAGGAATCAT AATGAACGAT CAATCAGAAA AAAAGACTAG        60
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1058

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AAAGAAGACT GTATGGATAA TCGACCAATT GGTTTTTTGG ATTCGGGTGT CGGGGGCTTG      120

ACCGTTGTGC GCGAGCTCAT GCGCCAGCTT CCCCATGAAG AAATCGTCTA TATTGGAGAT      180

TCGGCGCGGG CGCCCTATGG CCCCCGTCCT GCTGAGCAAA TTCGTGAATA TACTTGGCAG      240

CTGGTCAACT TTCTCTTGAC CAAGGATGTC AAAATGATTG TCATTGCTTG TAACACTGCG      300

ACTGCGGTCG TCTGGGAAGA AATCAAGGCT CAACTAGATA TTCCTGTCTT GGGTGTAATT      360

TTGCCAGGAG CTTCGGCAGC CATCAAGTCC AGTCAAGGTG GGAAAATCGG AGTGATTGGA      420

ACGCCCATGA CGGTACAATC AGACATATAC CGTCAGAAAA TCCATGATCT GGATCCCGAC      480

TTACAGGTGG AGAGCTTGGC CTGTCCCAAG TTTGCTCCCT TGGTTGAGTC AGGTGCCCTG      540

TCAACCAGTG TTACCAAGAA GGTGGTCTAT GAAACCCTGC GTCCCTTGGT TGGAAAGGTG      600

GATAGCCTGA TTTTGGGCTG TACTCATTAT CCACTCCTTC GCCCTATTAT CCAAAATGTG      660

ATGGGGCCAA AGGTTCAGCT CATCGATAGT GGGGCAGAGT GCGTACGGGA TATCTCAGTC      720

TTACTCAATT ATTTTGAAAT CAATCGTGGT CGCGATGCTG GACCACTCCA TCACCGTTTT      780

TACACAACAG CCAGTAGCCA AAGTTTTGCA CAAATTGGTG AAGAATGGCT GGAAAAAGAG      840

ATTCATGTGG AGCATGTAGA ATTATGACAA ATAAAATTTA TGAATATAAG GATGACCAGG      900

ACTGGTATGT TGGGTCTTAT AGTATTTTTG GTGGCGTTAA CAGTTTGAGC GACTATAAGA      960

CAGATTTTCC TCTGTTTGAA TTCTCCAAAA TATTTGGAGA TGAAGAGTAT GGTTTCCCGC     1020

TTTCAGTTAC TGTTTTACGC TATGGTTCTA TCTACCGTTT GTTCTCCTTT GTGGTAGACA     1080

TGCTTAATCA AGAAATGGGA CGAAACTTGG AAGTTATTCA ACGTCATGGG GCCCTGCTCT     1140

TGGTTGAAAA TGGGCAACTC TTGTATGTAG AATTGCCTAA AGAAGGGGTC AATGTTCATG     1200

ATTTCTTTGA GACAAGCAAG GTCAGAGAAA CCTTGTTGAT TGCGACTCGT AACGAAGGTA     1260

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GCTTTGGCTA TGATCCCCTC TTCCTTGTAG GAGAAACAGG TGAGTCATCA GCTGAATTAA     1740

CCCTGGAAGA AAAAAATAGT CAATCTCACC GTGCCTTAGC CGTTAAGAAA CTTTTGGAGG     1800

TATTTCCATC ATGGCAAAGC AAACCATCAT TGTAATGAGC GATTCCCATG GCGATAGCTT     1860
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1059

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GATTGTGGAA GAAGTCCGTG ATCGCTATGT GGGCAAAGTC GATGCTGTTT TTCATAACGG      1920

CGATTCTGAA CTACGTCCGG ATTCTCCACT TTGGGAGGGC ATCCGCGTTG TTAAAGGGAA      1980

CATGGACTTC TACGCCGGCT ACCCAGAACG TCTGGTGACT GAGCTTGGTT CGACCAAGAT      2040

TATCCAAACT CATGGTCACT TGTTTGACAT CAATTTCAAC TTTCAAAAGT TGGACTACTG      2100

GGCTCAGGAG GAAGAGGCCG CTATCTGCCT CTATGGTCAC TTGCATGTGC CAAGTGCTTG      2160

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CAGAGAATGT CTCTATGCTC GTGTGGAGAT TGATGATAGT TACTTCAAAG TGGACTTTTT      2280

GACACGAGAT CACGAGGTGT ATCCAGGTTT GTCCAAGGAG TTTAGCCGAT GATTGCCAAG      2340

GAGTTTGAGA CTTTCTTGTT GGGGCAGGAG GAAACTTTTT TGACCCCTGC TAAAAATCTA      2400

GCTGTGTTGA TTGATACCCA CAATGCGGAT CATGCGACCC TCTTGCTCAG TCAGATGACC      2460

TATACCCGTG TTCCCGTTGT GACAGATGAA AAACAGTTTG TTGGGACGAT TGGACTCAGA      2520

GATATTATGG CTTATCAGAT GGAGCATGAC TTGAGCCAAG AAATCATGGC GGATACGGAT      2580

ATCGTTCATA TGACAAAAAC GGACGTAGCG GTTGTTTCGC CTGATTTCAC CATTACGGAG      2640

GTCTTGCACA AGCTAGTAGA TGAGTCCTTC TTACCGGTTG TGGATGCAGA GGGTATTTTC      2700

CAAGGGATTA TTACGCGCAA GTCCATCCTC AAGGCCGTTA ATGCCCTCTT GCATGACTTT      2760

AGTAAGGAAT ATGAGATTCG ATGCCAATGA GAGACAGGAT TTCAGCCTTT TTAGAGGAAA      2820

AGCAGGGCTT GTCTGTCAAT TCCAAGCAGT CCTATAAGTA TGATTTGGAG CAATTTTTAG      2880

ACATGGTAGG TGAGCGGATT TCTGAGACCA GTCTCAAGAT TTACCAAGCC CAGCTAGCCA      2940

ATCTAAAAAT CAGCGCCCAG AAGCGAAAGA TTTCGGCCTG TAACCAATTT CTATACTTTC      3000

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AGAAGACGGA AAAGCCAGAG ATTCTATACC TAGACTCTTT TTGGCAGGAA AGCGACCATC      3120

CAGAGGGCCG CTTGCTAGCG CTCTTAATCC TAGAAATGGG GCTCTTGCCC AGTGAGATTT      3180

TAGCCATCAA GGTTGCGGAC ATCAATCTGG ATTTTCAGGT GTTGCGAATC AGCAAGGCTT      3240

CCCAACAGAG GATTGTCACC ATTCCCACGG CCTTGCTTTC AGAATTGGAA CCCTTGATGG      3300

GGCAGACCTA TCTTTTTGAA AGAGGAGAGA AACCCTATTC TCGTCAGTGG GCCTTTCGTC      3360

AGTTAGAATC TTTTGTCAAG GAGAAAGGTT TTCCATCCTT ATCAGCTCAA GTCTTACGTG      3420

AACAGTTTAT TCTAAGACAA ATAGAAAACA AGGTCGATTT GTACGAAATT GCAAAAAAAT      3480

TAGGATTAAA AACAGTCCTG ACCTTAGAAA AATATAGATA ATGGATATTA AATTAAAAGA      3540

TTTTGAAGGA CCCCTGGACT TGCTCTTGCA TCTGGTTTCT AAGTACCAGA TGGATATCTA      3600
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                                    1060
CGATGTGCCC ATTACGGAAG TCATCGAACA GTATCTAGCC TATGTCTCAA CCCTGCAGGC    3660

CATGCGTCTG GAAGTGACGG GTGAGTACAT GGTCATGGCT AGTCAGCTCA TGCTGATTAA    3720

GAGTCGTAAA CTCCTTCCGA AGGTAGCAGA AGTGACAGAC TTGGGGGATG ACCTGGAGCA    3780

GGACCTCCTC TCTCAAATCG AAGAATATCG CAAGTTCAAG CTCTTGGGTG AGCACTTGGA    3840

AGCCAAGCAC CAAGAACGGG CCCAGTATTA TTCCAAAGCG CCGACAGAGT TGATTTACGA    3900

AGATGCGGAG CTTGTGCATG ACAAGACGAC CATTGACCTC TTTTTGACTT TTTCAAATAT    3960

CCTAGCCAAG AAAAAAGAGG AGTTTGCACA AAATCACACG ACGATCTTGC GGGATGAGTA    4020

TAAGATTGAG GACATGATGA TTATCGTGAA AGAGTCCTTG ATTGGACGAG ATCAATTGCG    4080

CTTGCAGGAT TTGTTCAAGG AAGCCCAGAA TGTCCAAGAG GTCATCACCC TCTTTTTGGC    4140

AACCCTAGAG TTAATCAAAA CCCAGGAGTT GATCCTCGTG CAAGAGGAGA GTTTTGGAGA    4200

TATCTATCTC ATGGAAAAGA AGGAAGAAAG TCAAGTGCCT CAAAGCTAGA CTTGATAGAG    4260

AGGAAAGATG AGTACTTTAG CAAAAATAGA AGCGCTCTTG TTTGTAGCGG GTGAAGATGG    4320

GATTCGGGTC CGCCAGTTAG CTGAACTCCT CTCTCTGCCA CCGACAGGCA TCCAGCAAAG    4380

TTTAGGAAAA TTAGCCCAGA AGTATGAAAA GGACCCAGAT TCCAGTTTGG CTTTGATTGA    4440

GACAAGTGGT GCTTATAGAT TGGTGACCAA GCCTCAATTT GCAGAGATTT TGAAGGAATA    4500

CTCTAAGGCG CCTATCAACC AGAGCTTGTC TCGGGCTGCC CTTGAGACCT TGTCCATTAT    4560

TGCCTACAAA CAGCCGATTA CGCGGATAGA AATTGATGCC ATCCGTGGAG TTAACTCGAG    4620

TGGAGCCTTG GCAAAGTTGC AGGCTTTTGA CCTGATAAAG GAAGACGGGA AAAAGGAAGT    4680

ATTGGGGCGC CCCAACCTCT ATGTGACTAC GGATTATTTC CTAGATTACA TGGGGATAAA    4740

CCATTTAGAA GAATTACCAG TGATTGATGA GCTTGAGATT CAAGCCCAAG AAAGCCAATT    4800

ATTTGGTGAA AGGATAGAAG AAGATGAGAA TCAATAAGTA TATTGCCCAC GCAGGTGTGG    4860

CCAGTAGGAG AAAAGCAGAA GAGCTGATTA AGCAAGGCTT GGTGACGGTT AACGGCCAAG    4920

TGGTGCGTGA ACTAGCAACC ACTATCAAGT CAGGCGACAA GGTCGAAGTT GAAGGTCAAC    4980

CTATCTACAA CGAAGAAAAG GTCTACTATC TGCTTAACAA ACCACGCGGT GTGATTTCCA    5040

GTGTGACAGA TGATAAGGGT CGCAAGACGG TTGTCGACCT CTTGCCCAAT GTCAAAGAGC    5100

GTATTTACCC TGTGGGTCGT TTGGACTGGG ATACATCAGG TGTCTTGATT TTGACCAATG    5160

ATGGGGACTT TACAGACGAG ATGATTCACC CTCGTAATGA GATTGACAAG GTTTATGTCG    5220

CGCGTGTTAA AGGTGTGGCC AATAAGGACA ATCTCCGCCC CTTGACCCGT GGTCTTGAGA    5280

TTGATGGTAA GAAAACCAAG CCAGCTGTTT ATGAAATTCT CAAAGTGGAC CCAGTCAAAA    5340

ATCGCTCTGT GGTGCAGTTG ACCATCCATG AAGGGCGTAA CCATCAGGTT AAAAAGATGT    5400
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1061

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TTGAAGCTGT TGGTCTCCAA GTAGATAAGT TGTCTCGGAC TCGTTTCGGA CACCTAGACT      5460

TGACAGGACT CCGTCCAGGA GAATCCCGTC GTCTTAATAA AAAAGAAATC AGCCAACTAC      5520

ACACCATGGC TGTAACTAAG AAATAATGAA ACGAATTTTA ATAGCGCCTG TGCGCTTTTA      5580

CCAACGTTTT ATCTCACCAG TCTTTCCACC CTCTTGTCGC TTTGAGCTGA CTTGTTCCAA      5640

CTACATGATT CAGGCTATTG AAAAACATGG GTTTAAGGGG GTATTGATGG GCTTGGCTCG      5700

GATTTTACGT TGTCATCCCT GGTCGAAAAC AGGTAAGGAC CCCGTTCCAG ACCGCTTTTC      5760

CCTTAAACGA AATCAAGAAG GGGAATGAGG TGGGGTAAAT AGATTTCAAA ATGATAAAAA      5820

CGCATCCTAT CAGGTTTGAG TGAACTTGAT AGGATGCGTT TTAGAATGTC AAAATTTTAT      5880

ACTCTTCGAA AATCTCTTCA AACCGCGTCA GCTTTCATCT GCAACCTCAA AACAGTGTTT      5940

TGAGCAACCT GCGGCTAGTT TCCTAGTTTG CTCTTTGATT TTCATTGAGT ATTAAATTGA      6000

GTTTGAAGTG GCTTATTTCA AAGCTTTTTG TATGTCTTCA ATCATGAGTT TTGTTGATTC      6060

AAGTCCGCCT CCGCTTAGAT ACCAGAGGTC TGGTGTTAGT TGGATAATCT TACCATTTTT      6120

AGCAGCAGGT GTTTCAGCGA TAAGGGCATT TTCTAGGACA CCGTCGTTGC TAGAGTTGTC      6180

CCCACCGATG GCAAGGGTAC GGTTGATGAC AAAGAGGATG TCAGGGTTGA TTTCTTTGAC      6240

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GAATTTCAAG GTTTGGTACA AGAAAGAGAA ACGAGATTTG GCACCAAAGG CTGCCATTTT      6360

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GCCGAGGTCA AAGGTCACAA TCTTTTCAGG AACTTTGGAA AGTTTGACCT CGTCCAGTGA      6840

ACTTTTAATG GTTACCTCTG TTGGAGCAGA GCTACTGGTC TCTGTCTGAC TAGTGCTTGA      6900

GTTTGTACTA CATGCACCAA GTAGGAGCAA GAAGCTGGCC ACTAGGGCAG TGAAATAAAG      6960

TTTAAGGGAT GTTTTCATAA TTTCTCCTTT TTAAAATGTG ATAACGATTT AGGGAGTCTC      7020

TTAATCTTAT TGACTAAGAG ACTGAAGGTT CTCTAACTTG AGCTTTTATG TTACTAGCTA      7080

TAGATACAGA TCTTTTTGTC ATTGATATCA GCTAGCGTGA TGGGAATCTC ATAAAGTTGA      7140
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1062

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CTGAGCAGGT CAGCCTGCAT GATTTGATCG GTTCTTCCCT TGCTAAAGAC CTGGCCGTCC        7200

TTGAAGGCGA CAATTTCATC TGCATACTGA CTGGCCATGT TGATATCGTG GAGGACGATG        7260

ATAATGGTCT TGCCGAGTTC CTCCACCAGT CGTCGAAGAA TCTGCATCAT GCTGACGCTT        7320

TGCTTGATAT CGAGATTGTT GAGTGGTTCG TCCAGCAAGA TAAAGTCCGT ATCCTGGGCC        7380

AGTACCATAG CGATAAAGAC GCGCTGGAGT TGCCCCCCTG ACAGGCTATT GATGTAGCGG        7440

TCTTTTAAGT TGGTCAGTTC TAAATAGTTC AGAGTTTCTC GGATTTTTTC CCAGTCTTCT        7500

GATCTAAGTC GACCTCGGCT GTAGGGAAAA CGTCCAAAAC TGACCAGTTC TTCAACAGTC        7560

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GAATTCCAGC TCTCGATTTC ACGTCCTTTG ATACTGAGAA CTCCCTGATC TTTCTTGGTT        .7680

AGCCTGCTCA TGATGGAGAG GAGAGTCGAT TTTCCAGCAC CATTTGGACC AATAAAGGCT        7740

GTCAGTTTTT GAGGACTGAC TTCAAGCGAA ATGCCTTGCA AAATATCCTG TTTTTGAATG        7800

GATTTGTCAA TGTTTTCCAG TTTCACTGAC GAGACCTCCT ATATAGTAAG ATAAAGAATA        7860

AGAAGCCACC CACACTCTCA ATGATCATAC TGATACGAAT TTCCAGTGCA AAGACTCGTT        7920

CAATCAAGGC TTGCCCCAAG GTTAAGCTAA TAAATCCAAC CAGAATGGCC ACTATAAAGA        7980

GTAACTTGTG CTGATAGTCT TTGACAATCA GGTAGGTGAG GTTGGCCAGT ATAAAGCCGA        8040

AGAAGGCCAT AGGTCCTACC AAGGCAGTGG CCGTTGAGGT CAAAAGCACG ATTCCCCAGA        8100

GGAGCTCTTT CTGTTCTTTT TCAACATCGA GTCCCAATAT CTGAGCCGTT TCTCTTTGCA        8160

GGTGCAAGAC ATCTAGAACG ACTGCTTTTC GAAAGAAAAA GATTGTCAAA GCGAGGATGA        8220

TCAGAGAACC GATGGCTAGG ATGGAAGTGT TGAGATGTTG AAAGGAGGCA AAAAGACTAT        8280

TTTGCAGTTT ATCGTATTCG TTTGGATCCA TTAGGACTTG AAGGAAGGTG CTGATATTTC        8340

GAAAGAGACT TCTGAGCGCT AGACAGATCA GCAGGACGAA GACCAGGTCT TGCTTCATCA        8400

GTGTCTTCAA GTAACCTTGT AAGGCGAGAA AGAAGAGGGA CTGGACAAGA AGTAAGACTA        8460

GGAATTCTAA GATAGGGGAT TTGCCAAGTT GAAGAAACTT GCTTTCAAAA ACCAGTAG1A        8520

GGGTTTGTAG TAGGACGTAG AAGGATTCAA TTCCCAAAAT ACTAGGCGTC AGGAAGCGAT        3580

TTTCCGTCAG GGTTTGAAAA CTAATGGTCG AAATCCCAGT CGCGATGGCT ACCAAGAGAT        8640

AAACGATGAT CTTTTGGGAA CGCAACTTCC AAGCAAAGGC TGACAAGTGA GTGATGGGCC        8700

AAAAGTAGAG AAGACAAGCT CCGATGGCAA GAATAATGAG AATCCAGAAG AGCTTGGTAT        8760

GTTTGCTTTT AGTCTGCATC TTTTCGTCCC CCTCTCCAGA GAAGTAGGAT AAAGACGAGA        8820

CTACCGATGA TTCCTAGCAA GAGACTGACA GACAACTCAT AGGGCCTAAT CAGAACTCGG        8880

GATAGGATAT CGCAAGCCAG AACTAGATTG GCACCAACCA GTGCGACCAT GAGTTTGGTT        8940
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1063

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TGACTTAGAT TATCTCCATA GCGCTTGCGA ACAAGATTGG GAACGATAAC TCCGAGAAAT    9000

GGTAGGCCAC CCACGGTAAT CATGGTGACG CTTGTCGTTA GCGCCACCAG AAAGAGGGCC    9060

AGTTTTTCAA GTAGGGAGTA GGAAATCCCC AAACTCTCGC TGGTTTCTTT CCCTAGATTC    9120

ATGATGGTGA AGGTTTGGGA TAATTTCCAA ACGGTTATCA GGATGATGAG GCCTAAGAAG    9180

AGCCACTCAT ACTGATGGGT CTGAATCATG GAGAAGGAGC CCTGGGTCCA GGCAGTCATA    9240

CTCTGAACCA GATTGAAACG ATAGGCGATA ACTTCTGTGA CTGAGCCGAT AATCCCGCTA    9300

TAGATGATCC CAATCAGAGG CAACATCCAC CTTTCCTTTA CAGTAAAAAT GGTCATAAAG    9360

GCTAGGAAGA AGAGGGTGAA TACGATGGAT GAAACAAAAG CGAAGAGCAT CTTGTGGGTC    9420

AGACTAGCCG ATGGAAAGAC AAAAAGGCTC AGCACCATTC CCAGTTTGGC GGCTTCAGTC    9480

GTTCCAACTG TACTCGGTGC AGCAAACTGA TTTTGGGTAA TAGTCTGCAT GAGAAGGCCT    9540

GCCATACTCA TACTAGAGGC AGTCAGGAGA ATACTGATAG TTCTTGGGAG ACGGGACTCT    9600

TGAAAGAGGA GCCAGGTCTG CTGGTCGAAA TCAAATAGCT TTCCCCATGA AAAATCACTG    9660

GTCCCAATGC TAATAGAGAG AAAGACTAGG AGTAGAAGTA AGCCAGG    9707
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(2) INFORMATION FOR SEQ ID NO: 165:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 5910 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear


    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 165:

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CCGCAATTAT GCTTGAAAAG GAGTATACTT ATAAGTAACG CAAACGTTTG CGTCTGAAAA     60

ATACGCAACG TTCCATTATT TTAACACACG AGGTGCTATT ATGAAAAAAC GTCAAAGTGG    120

TGTGTTGATG CACATCTCTT CTCTTCCAGG AGCTTACGGA ATCGGATCAT TTGGTCAAAG    180

TGCTTACGAC TTCGTTGATT TCTTGGTCCG TACAAAACAA CGTTACTGGC AAATCCTTCC    240

ATTAGGAGCA ACTAGTTACG GGGATTCTCC TTACCAATCT TTCTCAGCCT TCGCAGGAAA    300

CACTCATTTT ATCGATTTAG ATATCTTGGT GGAGCAAGGT TTGTTGGAAG CAAGTGACCT    360

TGAAGGAGTT GACTTTGGTA GCGATGCGTC TGAAGTTGAC TATGCTAAAA TCTACTATGC    420

ACGTCGTCCT CTTTTAGAAA AAGCGGTGAA ACGTTTCTTT GAAGTCGGAG ATGTTAAAGA    480

TTTTGAGAAA TTTGCTCAAG ACAACCAATC ATGGCTTGAG CTCTTTGCTG AGTATATGGC    540

TATCAAAGAG TATTTTGACA ATCTTGCTTG GACTGAATGG CCAGATGCAG ATGCTCGTGC    600
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1064

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TCGTAAAGCT TCAGCACTTG AAAGCTATCG TGAGCAATTG GCAGACAAGT TGGTTTACCA    660

CCGTGTGACT CAATACTTCT TCTTCCAACA ATGGTTGAAA TTGAAAGCTT ACGCTAACGA    720

CAACCACATC GAAATCGTTG GGGACATGCC AATCTACGTA GCGGAAGATT CAAGTGATAT    780

GTGGGCAAAT CCACATCTCT TCAAAACAGA TGTCAATGGT AAGGCTACTT GTATCGCAGG    840

ATGCCCACCA GATGAGTTTT CTGTAACTGG TCAGCTTTGG GGTAATCCAA TCTATGACTG    900

GGAAGCAATG GACAAAGACG GCTACAAATG GTGGATTGAA CGCTTGCGTG AAAGCTTCAA    960

AATCTACGAT ATCGTTCGTA TCGACCACTT CCGTGGCTTC GAATCTTACT GGGAAATCCC   1020

TGCTGGTTCC GATACAGCAG CACCTGGTGA GTGGGTGAAA GGTCCAGGTT ACAAGCTTTT   1080

TGCAGCCGTT AAGGAAGAAC TTGGTGAGCT AAACATCATC GCAGAAGACC TTGGCTTCAT   1140

GACAGATGAA GTGATCGAAT TGCGTGAACG TACTGGCTTC CCAGGAATGA AGATTCTTCA   1200

ATTTGCCTTC AACCCAGAAG ACGAAAGCAT TGATAGCCCA CACTTGGCAC CTGCTAACTC   1260

AGTTATGTAC ACAGGAACAC ACGATAACAA TACGGTTCTT GGTTGGTACC GTAATGAGAT   1320

TGATGATGCG ACTCGTGAGT ACATGGCTCG TTACACGAAC CGTAAAGAAT ACGAAACAGT   1380

GGTACACGCT ATGCTTCGTA CAGTATTTTC ATCAGTTAGC TTTATGGCAA TTGCAACTAT   1440

GCAAGATTTA CTAGAATTGG ATGAGGCAGC TCGTATGAAC TTCCCATCTA CCCTTGGTGG   1500

AAACTGGTCT TGGCGTATGA CTGAAGATCA ATTGACACCA GCTGTCGAGG AAGGTTTGCT   1560

TGACTTGACA ACAATTTATC GCCGAATTAA TGAAAATTTG GTAGATTTAA AGAAATAAGA   1620

CAATAATCAG GAGACAACTA AACATGTTAT CACTACAAGA ATTTGTACAA AATCGTTACA   1680

ATAAAACCAT TGCAGAATGT AGCAATGAAG AGCTTTACCT TGCTCTTCTT AACTACAGCA   1740

AGCTTGCAAG CAGCCAAAAA CCAGTCAACA CTGGTAAGAA AAAAGTTTAC TACATCTCAG   1800

CTGAGTTCTT GATTGGTAAA CTCTTGTCAA ACAACTTGAT TAACCTTGGT CTTTACGACG   1860

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TGGAACCATC TCTTGGTAAT GGTGGTTTGG GACGTTTGGC TGCCTGCTTT ATCGACTCAA   1980

TTGCTACTCT TGGTTTGAAT GGTGACGGTG TTGGTCTTAA CTACCACTTT GGTCTTTTCC   2040

AACAAGTTCT TAAAAACAAC CAACAAGAAA CAATTCCAAA TGCATGGTTG ACAGAGCAAA   2100

ACTGGTTGGT TCGCTCAAGC CGTAGCTACC AAGTACCATT TGCAGACTTT ACTTTGACAT   2160

CAACTCTTTA CGATATTGAT GTTACTGGTT ATGAAACAGC GACTAAAAAC CGCTTGCGTT   2220

TGTTTGACTT GGATTCAGTT GATTCTTCTA TTATTAAAGA TGGTATCAAC TTTGACAAGA   2280

CAGATATCGC TCGCAACTTA ACTCTCTTCC TTTACCCAGA TGATAGTGAC CGTCAAGGTG    2340

AATTGCTCCG TATCTTCCAA CAATACTTCA TGGTTTCAAA CGGTGCGCAA TTGATCATCG   2400
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1065

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ACGAAGCAAT CGAAAAAGGA AGCAACTTGC ATGACCTTGC TGACTACGCA GTTGTCCAAA      2460

TCAACGATAC TCACCCATCA ATGGTGATTC CTGAATTGAT TCGTCTTTTG ACTGCACGTG      2520

GTATCGATCT TGACGAAGCA ATCTCAATTG TTCGTAGCAT GACTGCCTAC ACTAACCACA      2580

CAATCCTTGC TGAAGCGCTT GAAAAATGGC CTCTTGAATT CTTGCAAGAA GTGGTTCCTC      2640

ACTTGGTACC AATCATCGAA GAATTGGACC GTCGTGTGAA GGCAGAGTAC AAAGATCCAG      2700

CTGTTCAAAT CATCGATGAG AGCGGACGTG TTCACATGGC TCACATGGAT ATCCACTACG      2760

GATACAGTGT TAACGGGGTT GCAGCACTCC ATACTGAAAT CTTGAAAAAT TCTGAGTTGA      2820

AAGCCTTCTA CGACCTTTAC CCAGAAAAGT TCAACAACAA AACAAACGGT ATCACTTTCC      2880

GTCGTTGGCT TATGCATGCT AACCCAAGAT TGTCTCACTA CTTGGATGAG ATTCTTGGAG      2940

ATGGTTGGCA CCATGAAGCA GATGAGCTTG AAAAACTTTT GTCTTATGAA GACAAAGCAG      3000

TTGTCAAAGA AAAATTGGAA AGCATCAAGG CTCACAACAA ACGTAAATTG GCTCGTCACT      3060

TGAAAGAACA CCAAGGTGTG GAAATCAATC CAAATTCTAT CTTTGATATC CAAATCAAAC      3120

GTCTTCACGA GTACAAACGC CAACAAATGA ACGCTTTGTA CGTGATCCAC AAATACCTTG      3180

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CTCCAGCCTA CACAATCGCT CAAGACATTA TCCATTTAAT CCTTTGCATG TCAGAAGTTA      3300

TTGCTAACGA TCCAGCAGTA GCTCCACACT TGCAAGTAGT TATGGTTGAA AACTACAACG      3360

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CTAAAGAAGC TTCAGGTACT GGTAACATGA AATTCATGTT GAACGGAGCT TTGACACTTG      3480

GTACTATGGA CGGTGCTAAC GTGGAAATCG CTGAGTTGGT TGGAGAAGAA AACATCTACA      3540

TCTTCGGTGA AGATTCAGAA ACTGTTATCG ACCTTTACGC AAAAGCAGCT TACAAATCAA      3600

GCGAATTCTA CGCTCGTGAA GCTATCAAAC CATTGGTTGA CTTCATCGTT AGTGATGCAG      3660

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ACTGGTTCAT GACTCTTCTT GATTTGGAAG ACTACATCAA AGTCAAAGAG CAAATGCTTG      3780

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GATTCTTCTC ATCTGACCGT ACAATCGCTC AGTATAACGA AGACATCTGG CACTTGAACT      3900

AATACTCTTC GAAAATCTCT TCAAACCACG TCAGCTTTAT CTGCAACCTC AAAGCAGTGC      3960

TTTGAGCAAC TGCGGCTAGC TTCCTAGTTT GCTCTTTGAT TTTCATTGAG TATAAGATAC      4020

AAATTTATAC TAATACATTT TGTAAAAAAG CGAGTTTCGA TTGAAATTCG CTTTTTTAAT      4080

GATGTAGATT TGGGTCAATC TTGTCTAAAA ATAGGGAAAT CCTAGATACA GTGAAGGCTT      4140
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                                     1066
TAAATGCTGG TTTTTACTGT CCTCAGCCTT ATATTTTTTC GTAGTTGGTT ACCTCATATC     4200

TATTATATTC GCTTACATAA AGTATTATAA TATAATTGTA GGAAAGAAGG TGTTTTTATG     4260

ATATACACAC TTAAATTGGT GTTGTTTATT ACCTTTCTTG TAATAAGCTT GTTACCTGAT     4320

AAGATTTTTG GAAAAAATAA AAAAATTTGG AAAATAGTTT TTGCAATATT GACGGCAGTG     4380

GCAGCATTGT CATTTATGTA CTAAGTTATT TTAAGAATGT AGGGAAATAA ACCCTACATT     4440

CTTTTTAGTT TTTTCTGTTT TCTAAATTCT ATTTATCCAA GCGATTCAAC ATTTCTTGCT     4500

TCTTCGCTTC AAGTTCTGCA CGCTTTTCTT CGATTTCGGC ATGTTTTTTC TCGAGTTCAG     4560

AACAACTTGC ACCATTGCTA AATTCTTTTC GCCATCAGGA GATAGGGTGA GTCGACATGT     4620

CTATTACTCA CCCAAAGCAG TCCTACAAAG CAGGAATTTT CTGTTACTTT TTTGGAAATA     4680

GTAACGTTTA TACAGCTTTG ACACTTCGTA TCAAAGCGCC AAACACACTC CGAGGGGTTT     4740

ACAGAAAGCA GAAAAGGAAT GATCTGGTAT AAGATCATTC CTTTTCyCTC TTTTTCTTTA     4800

AGTAATTATA TACAATGTAC GACGAAGTCG TCATTGCAAT GCTGATCCAC CACCTAAAGG     4860

GAACTTTAAA CAACATTGAT AAGATAAAGA ATATAAACAA CGAAAATACG TTATACCCAA     4920

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AAAATATGCT ATTATGTTAA AAAAATATTT TTCAAAATAT AAATGGACGG ATTTATTTTG     5640

GATTTTATTT GTTATTTTGA CCTGCCTCTA TATTGGTAAC CATGATTTGT TTACTCTCAA     5700

TCATCAAGAA TTCTCTTTTC GTGGTAGCGT TTGGGGTCTG GTACTGGCCT TATATCACTT     5760

ACTATTCATT GATAAGTTTG TTATATCGAA TCGAAAATAA AGATTAGAGC TATGCTTGAC     5820

TGTGTACTTT TAGGATTTAT TTTGGAGGAA GATTTTGTCT CTATTATTTA TTATTTTAAA     5880

TTTATTTATT TTGTATAAGA TCTATTCTTT                                      5910
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1067

(2) INFORMATION FOR SEQ ID NO: 166:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 5406 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear


    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 166:

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GGCATAGCGA CTCATTTTTT CAACTGTCCA GGCTGGATAC CAGACTAATT TAACCTCAGT        60

ATCCGTTACT TCTGGAACCT CTATCATAGC ATCATAAATC TGGTCTGTCA AAAGGTCTGC       120

TAAGGGACAA CCCATAGTTG TCAAAGTCAT GTCAATCTCT GTTTGCCCTG TGTCACCGTC       180

AAAACGAATC TCATAGATCA AACCAAGATT GACAATATCG ATTCCCAACT CAGGGTCGAT       240

GACTTCTTCC AAGGCTGTTA AAATCCGTGT TTTGATGTTT TCAATTTGCT CTTCTGTATA       300

AGCCATATTT TCCTCACTCT TAGTCTTCAA TAAAATCACG AAGCGGTTTG CTACGACTTG       360

GTTGGCGTAG TTTTCTCAAA GCCTTTGCTT CAATCTGACG GATACGCTCA CGAGTTACGT       420

TAAAGACTTT CCCCACATCT TCAAGTGTGC GCATTTTTCC ATCATCTAGT CCAAAACGTA       480

GACGCAGAAC ATTTTCTTCA CGGTCTGTAA GAGTATCTAA GATTTCATCC AATTGCTCAC       540

GCAAGACGAT ACGAGTCGTA TAATCCACTG GATTTTCAAT CACTTCATCT TCGATAAAGT       600

CTCCAAGGTG GCTATCGTCC TCTTCACCGA TAGGAGTTTC AAGAGATACT GGTTCTTGGG       660

CAATCTTCAA GATTTCACGA ACCTTATCAG GTGTCATATC CATTCGTTCA GCAATCTGTT       720

CTGGTGTCGG ATCTTGCCCC AATTCTTGAA GGAGATTCCG CTGTTCACGA ACCAATTTAT       780

TGATAGTTTC AACCATGTGA ACTGGGATAC GGATGGTACG AGCTTGGTCC GCAATAGCAC       840

GAGTGATAGC CTGACGAATC CACCAAGTTG CATAAGTTGA AAACTTGAAC CCTTTAGAAT       900

AGTCAAACTT GTCAACCGCC TTCATCAAGC CCATATTTCC TTCTTGAATC AAGTCAAGGA       960

ACTGCATACC ACGACCGACA TAGCGTTTGG CAATGGAAAC AACCAAACGA AGATTGGCTT      1020

CCGCAAGACG TTGTTTGGCT TCGATATCAC CAGCTTCAAC AGCCAGTGCC AACTCTTTCT      1080

CCTCTTCATT GGTCAAGAGA GGAACGACCC CTATTTCTTT CAAGTACATA CGGACAGGGT      1140

CATTGACCTT AGCAGAAGTT GACCCAATCA AGTCCTCATC GCTGAGTTCT GGTTCTTCTT      1200

CATTGCTGAG AACACGCGCA CTTGGATTTC CTTCGTTATC TGTGATAGAA ATGCCTGCAT      1260

CCTGAATCCG TTGCAAGAGA TCTTCAATCC CATCAGCGTC CAAGGTAAAA GGAATAACCA      1320

GACTTGCATT GATTTCATCA TCTGTTGCTG TCCCTTTTTG CTTATGATTA CGGATAAATT      1380
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                                   1068
CTGCTACCTG TACGTCAAAT GTTGTTACTT CTTTTTGTTT TGTTGCCATT ATTACTCCAT   1440

TCTTCTCTTT TGGGAAATTA AACGTTCCAA TTCTTCTAGG GCTGTATCTG TATCTCCTAC   1500

ATGGCTAGCT TCCTGCACCT TCTTTTTGAT TCTCATATTG TCCTGATTCA AGAGAGCCTT   1560

GTTTCGAGTC ATCTCTACTT CACTAAGTTC CTGCGGCGAT ATCTCAGCAG GCAAATCCTG   1620

AGCTAAAACT TGGTACCAAG CTCTTTCAAC TTCCTCTGTC TGCTCTGCTA AAACTTCTGG   1680

AGGAAGATTT CCATACTGGC CAAGCAAGTC ATATAAGACC TGAAATTCAG GTGTAGCAAA   1740

TGCAAAGTCT TCTCGCAAAC GGTAATCGTT CAAAACAAGA GGGGATTCCA TCATCCGATA   1800

GAGTAGATGG GCTTCTGCCC TCATAATAGC CGATAACTGC TTGGTGACAG GCATGGTGAT   1860

TGGCGTCGGT CTGGAAATTC CTTCCATGCG ATTCTGCCTT TGCACCTGAC GACTCTCATT   1920

AACAATCTGC TCAATCTGGG TATAATCAAA GGACGCCAGA CTGTCAGCTA AAATATGAAT   1980

ATAGCTGTTT TGAGCAGCGA TGGACTTTTC TTGAACAATC AAGGGAGCTA TTTTTTCAAG   2040

AAACTCAATC TGAGCCTGCA GATTTTCACT GTTTTCAGGT TTGTACTGAT GAATGTAGAA   2100

CTCAATCGGA CTAATACGAG TTTTCGTTAA TAGATAGGCC AAGTCTTCTG GACCATTTTT   2160

TTGTAGATAC TCATCAGGAT CCAAGTTATC AGGCATGCTG ACGATTTGCA CAGGCATATC   2220

ACCAATTTCA TCCAATGCTT TCAATGTCGC GGCTTGCCCA GCCTTATCTC CATCGTAAAC   2280

AAGAACCAAT TTCTTGGTTA ACCTTTTCAG ATGCTCAACA TGCTCTCGAC TCAAGGCTGT   2340

TCCCATCGAC GCCACAGCAT TTTCGATTCC AGCCCGATAG GCTGCAATAA CATCCATGAA   2400

TCCTTCCATC AGGTAAATCT CACTAGCTTT TCCAGAAGAT CTTTTTGCCC TATCCATATG   2460

ATATAATTCG TAACTTTTGT TAAAAATTGC AGTCGATCGG CTGTTTTTAT ACTTAGAAGT   2520

TTGTGAATCC GTTTTTTGCC AGATACGACC TGAGAAGGCA ATGACCTTTC CTTGGTCATT   2580

TGTCAGGGGA AACATAATGC GATTGTGAAA GGTGTCTACA AATTGATTGG CATCCGAGAG   2640

ATAAAACAGG CCTGAATCCA GTAAATCCTC TTCACGATAC TGATCAGACA AACGTTGATA   2700

GAGATAGTTT CGTTCTGGAG GTGCTAAACC AATCCAAAAA TGTTTAAGCA CTTCATCTGT   2760

CAACCCCCGC TGATAAAGGT AATTTCTGGC CTCTTCGCCC ATAGTCGTTG TCATGAGAAT   2820

AGCATGGTAA AATTTGGCTG CATCTTCGTG CATATCATAA AGAGCTTGGT GAGGTGAGGC   2880

TGACTTCTGC TCACTATAAA GCGGTTTTTC AACCTCAATT CCAACACGCT GACCTAAGAT   2940

TTGGACTGCT TCTATAAAGG GAACCCCTTG GTACTCCTCG ATGAACTTAA AGACATCACC   3000

TGAGCGACCA CAACCGAAAC AGTGATAAAA CTGCTTGTCC TCTACAACAT TGAAAGATGG   3060

TGTTTTTTCA CCATGAAAAG GACAGAGCCC TAGATAGTTC CGTCCTGCCT TTTGTAAAGA   3120

AATCACATCT CCTATGACTT CCACAATGTT GGCATTGTTT TTGATTTCTT CAATGACTTG   3180
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1069

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TTTGTCAACC ATACACAATA CCTCCATGTT ATCATAGTTT ACTTTATATA GTATACTTTA   3240

TTTCAGAAAA AAAGTAAACC ATTTCACTCA TTTTCCCTAC TTTATTCAAA GAGTTGATAA   3300

TAATCAGAGA TTTTCATTTT TGCTTTTTCT TCTTGGTTTA AATCTTGGAT AATTCGTCCT   3360

TCTTTCATGA CAATCAAGCG ATTGCCGTAT TTGAGAGCAT CTTCCATATG ATGAGTAATC   3420

ATAAGGGCTG TTAGCTGATC TTTCTTAACA AATTCATCTG TCAATTCCAT CAAAGCAACA   3480

CTAGTCTTTG GATCCAGGGC AGCAGTATGC TCATCTAACA GGAGTAATTC AGGTCGCTTC   3540

AAGGTTGCCA TCAAGAGACT CAAAGCCTGT CTTTGTCCAC CTGATAAGAA CTCAATCGGT   3600

GTATTCAAGT GTTTCTCAAG ACCATTTCCT ACTTTTTCAA TGGTTGCCTG AAATTCATCC   3660

TTATAGCTAG TCAAGCGTCG TGGTAACAAT CCACGCTTTT CACCACGAAA CTTGGCGATT   3720

AAAAGATTTT CAGCGACCGT CATACGGGGA GCTGTCCCCA TCTTTGGATC TTGGAAGACA   3780

CGAGACAGGT ACTTGGCACG CTTCTCGGGT GAAAACTTAG TGAGATCTTC ACCTAAAATA   3840

CGGATAGTTC CACTAGTTAG TGATAAGGTC CCTGCTATAG TGTTAAAGAG AGTTGATTTT   3900

CCAGCACCAT TTCCGCCCAA AATCGTGATA AAGTCCCGTT CAAAAATTTC TAAGGAAACA   3960

TCATTTAAAA TAATCTTTTC TTCATCAAAG CCATTTTTAA CGATTTTGGT TGCATTTTTT   4020

AATTCTACAA TTGCTGTCAT TTGCTTAACT TGGCTCCTTT CAAGATTGTT TGCTTAAATG   4080

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TAAAGCCAAG TGCGATAACT GCCCACACTA AAAATTGATA AGCGATAGAA CCTACAACGA   4200

TAGTAACCAA ACGCTCTGCC AAGCTCAAAC TCTTGAAAAT AACTTCTCCA ATAATCAAAC   4260

TTGCAAGCCC CACAACGATA ACCCCGATCC CTCGAGACAC ATCGGCATAA CCTTCTTGCT   4320

GAGCAATGAG GGCACCTGCA AGGGCAATCA CACCATTTGA TAAGACCAAG CCCATGAGCT   4380

CCATGCGTCC AGTATGAATC CCGAAACTTC TAGCCATATC AGGATTATCC CCTGTAGCAA   4440

TATAGGCTTG TCCGAGTTTA GTGTCCAAGA AAAAGAGCAT GAGAGCAATA ACAATACTCA   4500

CAAAGATGAG ACCTGTCAAG AGTTGATTCA AATCCGAATC AAAAGGCAAA ACATCCTGAA   4560

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GACAAGAAGT CATCACCAAA ATCCCTGAGA GCAAGGTTGG GATCTTCCCT TTTGTATAAA   4680

GAAGGCCTGC TGCCATTCCA GCCAAACAAC CTGCTCCTAC AGCAACAAGT GTCGCTAAAA   4740

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CTTCTGTCGT CATATCTGGA AAGTTTAAAA TCCTAAATGT CATAAAGATT CCCAGACCTA   4860

GAATAGCCCA GACAAATCCT TGAGAAATAA TGGAAACAAT CATATTTTAT TTAATCCTTT   4920
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1070

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CTATATTCAT CTTTTTAAAA AATGGGAAGA GTCTCCTCCT CCCTACCTTA TTTATTCGAT    4980

GACTTGTCCT GCTTCTTTGA GAACAGACTC AGGAATAGTA ATACCTAGTT CTTGTGCTAT    5040

TTTTTTATTG ATGACTGACT TACCAGTTGA AAAGACATTG ACTGGGGTAT CGGCTGGTTT    5100

TGCACCTTTC AAGACTTGCA CAATCATTTT ACCTGTTGCC ACACCAAGGT CATGTTGGTC    5160

AATTACAACT GATGCCAAAC CACCTACTTC TACCATAGCT GTCGCACTGG GATAAATTGG    5220

TTTCTTAGAA CTTTGATTGC TAGAGACAAC CGTTGGAAAT CCTGATGCAA TGGTGTTATC    5280

AATTGGAACC CAAATAGCAT CTACCTTGCT AGTCATAACA GTGACAGTTG AGGCAATTTC    5340

ATTTGTTGAA GGAACTGCAA ATGTTTCCAC TGTCAGACCT GCCTTTTCAG CATAAGCCTT    5400

AAATTC                                                              5406
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(2) INFORMATION FOR SEQ ID NO: 167:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 9711 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear


    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 167:

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CAGCTTGCTC TTACTATTAT AGCAGATGTT ATAGCTGGAA TTATCTTGTA TTTCGTCTGC     60

AAATGGCTAG ATGGTAAGAA GTAGACCGAA TGACTAGCCT ATAAACACCC GTTAAATCGC    120

TAAGATACGT CAAAAAAGCC CTTAACTATG GCACTAGTTA GGGGCTTTGG TGTTCTAATG    180

AACCTTATAC ACTAACTACA TTCTAGCATA TAAGCCCAGA TATTTCAAGA GTTTTATTTA    240

TTGTTTAAAG TTCTGAAAGG TCTATAATGA AGTTAGCCAT CTAGTATCAA AAAACCGACT    300

AGCTCTTATG AACTAGTCGA TTTCTCATCA ATGCGCCAAC ATTTCTTGGG CGATTTCTTG    360

GCCAGATAGG TTATCTGGGT AGTAGGTTGG CCAGTTGTCC ATTTCTTCAA AGAGGGCTTC    420

TTGGCTTGTG CCTCCAAAGA AGATATGGAA ATGTTCTGCC TTAACTGGGG CAACATTGTG    480

GTCACTAAAC TGAACATACT TGAATTGTCC AGCGTCAGCA TCTGTGGCTT CAAAGAGGAA    540

ACGCACGCCA CGATTGCCTT TCTTGTAAGT CAAAATTTTC TTACCGACAT ACTTGTAAGT    600

GTATTTCTTG CTTTGTCCAC CTTGAACAAA TTCCATAGTA TTATCAGTAA TGTTAATCTT    660

AGTCACATCT GTATGATAGC CTTTTGTATA GTAAGCCTTG TACTCAGCCT GGGTCATCTT    720

ACCAGTCAAC TTAGCCTTGT AGTCAAAGAC TTGGTCAAAC GTGCCGTCTT CAAGGAAAGG    780

ATAAACTGAT TGCCAGTTAC CTGCATAGTC ACTCAAGGTG CGGTCCTTGA CAGCTGCATC    840

CTCGAAGTAA CCATTTTGGA CTGTCTTGGT ATCCTCTGCC TTTTCAGGTT CAATTGCTGG    900
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1071

GCCTTCTTGG TCTGTTGTTT GTTTCAAAGC CTTGAGGTTT TTCTCCATCA CGGAAATGTA      960

GTTTTCTCCA GCCTTGGTGT CCTCTTCTGT CAGACTTTCT AAAGGATTGA GGACATCAGT     1020

TTTGACACCT GCTTCTTTTG AAAGTGTGTT AGCAAGGGCT TGTGAGGCAT TTCTTCAAAA     1080

TAGATATAGG CGATTTTATT TTTCTTGACA TACTCTGTCA ATTCTGCCAA GCGAGCAGCT     1140

GATGGCTCTG CATCTGGAGA AAGTCCTGAG ATTGCGACTT GTTTGAGTCC ATAGTCCAAG     1200

GCAAGATAGT TAAAGGCTGC GTGTTGAGTC ACAAAGCTCA TTTGTTTTGC TTGAGACAAA     1260

CCTTCTGCGT AAGCCTTATC CAAGGCTTGC AATTTTTCGA TATAGGCAGC TGCATTCTTC     1320

TCAAAGGTCT CTTTTTTATC AGGATAATCT GCTGACAAGC TGTCGCGGAT GTGCTCTACT     1380

AGTTTAATGG CACGAACTGG TGATAACCAA ACATGGGGGT CAAACTCATG GTGATGACCT     1440

TCTTCTCCAT GGTCATGGTC TCCCTCTTCT TCCTCGCCAC CTGGCAAGAG CAACATATCG     1500

CCTGTCGCCT TGATGGTTTT CACTTTTTTC TTATCCAAGG TATCTAGCAA TTTAGGTACC     1560

CATGTTTCCA TGTTTTCATT TTCATAAACG AAGGTATCTG CATCTTGGAT TTTGGCAACT     1620

GCCTTGGCAG ATGGTTCGTA TTCATGAGGT TCTGTCCCAG CACCGATTAG GAGTTCTACA     1680

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ATATTGAGTT TACCATCTGC CTGTTTTTGA TTGGAACAAG CCACTAAAAA CAAGGCACAT     1800

AGACTGGCTA GTAATAAGCT AATTTTTTTC ACGTTCGTCT CCTATTTGAT AAAACGTCTT     1860

ACTAAACTGA TTAGTATAAA GACAGTTACA AAAATAATGG TAATACTTGC ACTTGCAGGT     1920

GTTTCTGCAT AGTAGGAAAT GTAAAGTCCT GCTACCATTC CCAAAAAGCC AATCGCACTG     1980

GCAAGCAGCA TAACCGATTT AAAGTTTTTC CCCAGACGCA GGGCAATACT AGCTGGCAAG     2040

ACCATAATGG TCGATACCAG AAGAGCTCCT GCTGCAGGAA TCATAAGGGC AATAGCCACC     2100

CCTGTCACCA TGTTAAAAAG AATGGACATG GTACGAACTG GCAAGCCATC CACAAAGGCC     2160

GTATCTTCGT CAAAAGTTAA GATATACATA GGACGAAGAA AGAGAAAGGT CAAAATCAAA     2220

ACAACCGCCG CAATGACAAA GAGGGAAATG ACCTGTTCTT CACTGATAGT CACGATCGAA     2280

CCAAAGAGAT ATTGGTCCAA ACTCATTGAA CTCGAGCTTT TACCCTTGCT CATGACAATC     2340

AGAGAAACAG CCAGACCTGT TGACATGAGG ATAGCTGTCC CGATTTCCAT AAAGCTCTTG     2400

TAAACCGTAC GGAGATACTC CAGAAAGACC GCCGCAATCA AGACAATGGC AATAGTAGAA     2460

ACAGTTGGAG AAATCCCCAA AACCAGACCA AAGGCTACAC CTGAAAGTGA GACGTGGCTA     2520

AGGGTATCAC TCATCAAACT CTGACGACGC AAGATGAGGA AGGTTCCCAA TACCGGTGAG     2580

AAAAGACTCA TAGCAATAAC CGCCAAAAAG GCGCGTTGTA TAAAGTCGTA AGATAATAAA     2640

1072

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CTAAGCATGG CCCACCTCCT GGCCATTCTC ATGAACATTG AAACAACGCC ATGGCGAGTC        2700

TTGGTTACGG ACTAGATGAA TATTGCGATC CGCATAATCC TTAACTTCTT CAGGGTCATG        2760

GGTAATCATC AAAACAGCCT TGCCATGATG ATGGGCGCTG TGGTGCATGA GTTCGTAAAA        2820

TTCATTTTTA CTTCCTGCAT CCATCCCCGT TGTCGGCTCG TCTAGGATAA ACACATCAGG        2880

GTCAGAAGCA AACATACGCG CAATTACCGC TCGCTGCTTT TGTCCCCCAG ATAGAGACCC        2940

CAAGCGTTTG TCTCGATGTT CCCACATGCC AACTGAGTCC AGACTAGCCT TGATATGCTC        3000

CTCATCATGA GCATTCAAAC GACGGAACCA GCCTTTTCTC GGATAGCGAC CCGACTTGAC        3060

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GGCTATTCTC AATTTCTTAC CTTGCGTATT TGTCTTTGAA ATAGCCACCT TTCCAATGCG        3180

TGGTTGCAGA ATTCCAAGAC TAGCCTTGAT GAGCGTCGTC TTAGCCGCTC CATTTTCCCC        3240

AGTCAAGGTA ACAAATTCCC CACTATCAAC ACAATAATTG ATATGTTCAA GAACAGGCTC        3300

CTTATCATAA TAGAAGGACA AATCCTCTAC CGTAATATAT CTCATTATTT GATTTCTCCT        3360

ACTAAAGCAG TCAAAACCG CTGAATCACT TTTTGTTCAT TTGGAGTAAA CTGAGTCGCC        3420

ACTTGTTCAT AGGTTAAAAG TGTATGCTCA TGGTGATGGT GGTGCTCCTC AGCGATTGGA        3480

CGAGCCAAGT CAGTCAACTG ATAAAAAATC ACACGCGCAT CTTTAGAATC TTTAGATGTT        3540

TCCAACATCC CTTCCTTGAC CAAAGACTTA ATGGCCTTGG TAACTGCCGC CTGACTGACA        3600

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ACCAAGGTGA ATGGTGTCCT TCATAAAGAA AGGCTCCCCG CCGTCCTTAG AAAAATCTGC        4140

TATATTGGTA AAACCTTGAC TTTCTAACTG GTAGCGAATC TTCTGCACCG TTTGTTGGTA        4200

CATATCCTCT CGTAGACCAG CATAGTTCAT CCATTTTTTA TTAACAGGTG GAATGATAAA        4260

AATCGGGTTT ACCTTAGATT TAGAAAACTG TGTTAAAACC AACTGCAAGT CATTATACTC        4320

TGGCGACTTG AGATAGGTAA AGCTTTTCTG AGAATCCTTT AATTTCTTCA AATCCTTCTT        4380

GATCTGCTCA TTATAGAAAT AATTTTCCAT TCCCATCTCA TTATTGGAAG TATTTTTTTC        4440
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1073

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AGCATCTGCT TTGACAACAT CTTCTATTGC CTGATAAGAA AACTGGTCTG GCAAGATTTT      4500

TAAATACTTA GCTACATGCT TATCGTAGTT AACATAGCCT CTAACCGAAA ACTGACCAAA      4560

AAAGGAAGCT TGGCGTTCAT TAAAACGAGC CAATAATTCA ATCATTTCAT TGTCTGCTGT      4620

CGACAATTCT TCTTTACTTG CCAACTTCTG AACCAGGTCC TTCATAGCTA CGTTTGGGAA      4680

CTGTTGCAGT AAGCGAGTCG CTGCATATTG ACTAGCCTGA TCCCCAGATT GATGTTTCAG      4740

AAAACTAGTC AACTGGTCTC CATTAAAATA CTGCTGGAAG GCTGCTGGAT CATAGCCATT      4800

TTTACTGAAC CACTGAGGTG AGATAACATA CACAACTTGT TTATTCTCCA GCTGTGGTAA      4860

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AGCTCCTAGA TTATGATGCA TCTCAGTAGG ATAAAAGAAA ATGAGCAGAA AAACCAACAA      5160

ACCAGCGATC AAGACCGGTC CGAAGATCAT CCATAAGCGT TTAAGCATTT TGTAGCTCCA      5220

CAATACCAGC TATGATTTTA TTAGCTGTAT TCCAGTCGTC ACGACCAAAC TCTGTTACAG      5280

GGACACGAAT GTCAAAACGG TTCTCAATCT CCACAATCAA CTCAACCGTT CCCATACTAT      5340

CCAAGACACC TGCATCAAAA AGATCTTCAT CCATCATGTC AGAAACATCT TCCATAAACA      5400

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CCCATAATCA GCATATTTAC AATGTAGGCC ATGCTTGAGG TTACATTACG ATTTTTAAAG      5760

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AGATTAAAGA AGCCACCTGA CTGCAAGGCT AAATTCTTCA GAGGAGGTAG TAAGGTCTCT      6060

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TCATCCAGCA TATCCATCAA CTCATCTCGC TCAGGAATAG CCTGATAATT TTCATTAAAT      6180
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1074

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CGCTTAAAGC GATCGATTGG ACCACTCGAG AAAGTTGGCA TGAAGAGAAG GAAACGGAGG      6240

AATTCCCAGA GGGTAAAATC CTTAATCACT CCATCTCTCA GCTCGATGAC AATTCCAACC      6300

GAACGAAAGG TCAGGTAAGA AATTCCCAAG AACCCAAGCA AAGACTGCGT TCCATTGATA      6360

GCTGGTTGCA CCTTGACAAA GATAATCGGA AGTAGGGACA GAAAACTAAC TAAGTAGAAG      6420

ACCCACTTGC CATCCTTGCT TTTTCGATAA TGCTTGTAGA AAAGCAGGAG CAATATTTCC      6480

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CCTATAAAGA TGGGCAAGGT TGCAGCAATC ACATAAACAA AATACTGAGG ATTGCCATAT      6660

GGCTCTAAAT GAGGAAGCTG TTGAAAAAAC TCCATCATCT CTTATTCACC TCGTTAATCA      6720

ATCCTTTGAT GTCAATCTTT CCATTTGGAG TTAGTGGCAA ACTGTCTCGG TAAAGGAATT      6780

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CGCCTGTGTG ATAGGCTGGC AGATCTTCAA ACTCAAAGAA GGCTTCTGCT GTTTTTTCAG      7140

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CATTTGGCAG TTTATTTCCT TCCTCGTCAA TGATAAAGGT TGGAGAATCA GCCTTGGTAT      7260

AGCCGATTGG TAGGCGTTTG AGAGTCGCTA ACATCTCGTC TGTCACGGCA ACTGCTGACA      7320

GAGCTACTGT CGCTTCTGTT GGGCCGTAAG CATTGATGAT ACGGGCATTT GGGAAACGCT      7380

CGCGCAGTTT TTGAGCTGTT TTGACCGTCA ATTCTTCACC ATCAAAGTAG AAATGCGTGA      7440

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GTGTTGATGT CCAGATAGCG ATTGGCAATG AAAAGATAGC CGCAAAGAGT TGCTTAAACT      7560

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CCTGAGCTAG ATTTATCATT GGTGTAGAAA CCTGCTCCAA GGGAAAGGCT GAAATGGCAA      7920

TAATCAAGCT TGGCTCTGCT ACTTCTAAAA TAGCTGAAAC TCGCTCCAAG GCCGAATGGC      7980
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1075

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TATCAATTGG AATGTAGGCA TGACCTGACT TAGTCAGCGC TACAAAGGTT GCCAACATTT      8040

CATATTCTTG GCCACCAAAA ACAACCACAG GAGACTTCTC AGGCAAGCCT AGTTGGTCAA      8100

TGACTGCAGC CAAACTATCC GAATCAGCCT TTAAATCGCC ATAAGTGTGT TCCTGCCCCA      8160

AAACATTATA GACAGGATAG CTAGGCTGTG TCTGAGCAAA ATGCTCAATG GTTTCAATCA      8220

TATCTGCTAT TGGTTTATTT GACACAATAG GGATTCTCCT TCAAGTTAAA ATTCATTATA      8280

GATAAAGCTT CCTTGACCCT GACCAAGATA GCTAAAGAAG TAAAGCAGCC CTAGAAAGAT      8340

AAGAAAATAC AAGGCTGTCC GACCAAGAAA GAGGTACAAT TCTTTTCTCT GTTTCATCAA      8400

GAAAAACCAT TCATTTCTGT AATTTTTCGC TAAAATAAGA GTGATTCTTA CTAGCTTATT      8460

TTTCTACCAT TGTACCACTT TATATAGTAT CTTTTCAATT GTTTACCGTA TGTTTCCAAT      8520

AGATTTCAGC TTATTTTAAG GATTATACAG TTTTTCTATG TATATTTTCA AATAGAGTGA      8580

TCCTGCTTCA AAACTCCATT TCAGGAGACA ATGAAGTAAA TCTTCCCATA ATAAAACACA      8640

CAATATCAAG TTTTTTCAAC ACCTGATACT ATGCGCTTTT CTGATTTTTA AAGACTTTTT      8700

AACCACTCTC TCATTTAAAA TAATCTCGTC TGATATAAAT TAAAATAGCT TCTATCATCA      8760

GACAAATGGC TGATAGCCAA AAACTGATGC TAATACCAAA ACTCTCAGTA ATATAGCTCA      8820

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AAATTCTCGG CTTGACCACG TCCACGATAA AGCTGAAACT GGTCTTGGcT gTTCCACTCG      9660

TCATATTTGT AACGAGAGAA ATAACATCGT AGAACAAGTA TCCTTCTTTT C              9711
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1076

(2) INFORMATION FOR SEQ ID NO: 168:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 3025 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear


    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 168:

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CCCCTTTGTC AAAACTGTAA AATTAACGAC TCAACAATTC ATCTTTACAC CAATCTCAAT        60

GGAAAACAAA AACAAATTGA CCTCTGTCAA AACTGCTATA AGATTATCAA AACAGATCCT       120

AACAATAGCC TCTTCAAAGG TATGACGGAT CTGAACAATC GTGACTTCGA TCCCTTTGGT       180

GATTTCTTCA ATGATCTAAA CAATTTCAGA CCTTCTAGCA ATACTCCTCC TATTCCCCCA       240

ACCCAATCAG GTGGAGGTTA CGGTGGAAAC GGCGGTTATG GTTCCCAAAA TCGTGGATCT       300

GCTCAAACTC CGCCACCTAG CCAAGAAAAA GGCCTGCTGG AAGAATTTGG TATTAATGTA       360

ACTGAAATTG CCCGTCGTGG AGACATTGAC CCCGTTATTG GGCGCGACGA TGAGATTATC       420

CGTGTCATCG AGATTCTCAA TCGTAGAACC AAGAATAATC CTGTCCTTAT CGGTGAACCT       480

GGTGTCGGAA AAACGGCCGT TGTCGAAGGT CTAGCTCAGA AAATTGTCGA TGGCGATGTG       540

CCACATAAAC TCCAAGGTAA ACAAGTCATC CGTCTGGATG TGGTTAGCTT AGTTCAAGGA       600

ACGGGGATTC GAGGACAATT TGAAGAACGC ATGCAAAAAC TCATGGAAGA AATTCGCAAA       660

CGTGAAGACA TCATCCTCTT TATCGATGAA ATCCATGAAA TTGTTGGTGC TGGTTCTGCG       720

AGTGATGGTA ATATGGACGC AGGAAATATC CTCAAGCCAG CCCTTGCTCG TGGAGAACTG       780

CAACTAGTCG GTGCTACTAC CCTCAATGAA TACCGTATCA TTGAAAAGGA TGCTGCCCTC       840

GAGCGTCGTA TGCAGCCTGT TAAAGTCGAT GAACCAACGG TGGACGAAAC AATCACTATT       900

CTCAAAGGGA TTCAAAAGAA ATACGAAGAT TACCACCACG TTCAATATAC AGATGCTGCG       960

ATTGAAGCAG CTGCAACTCT TTCCAATCGC TACATCCAAG ATCGCTTCTT GCCTGACAAG      1020

GCCATTGACC TCCTAGATGA AGCTGGTTCT AAGATGAACT TGACCTTGAA TTTTGTGGAT      1080

CCTAAAGTAA TTGATCAGCG CTTGATTGAG GCTGAAAATC TCAAGTCTCA AGCTACACGA      1140

GAAGAAGATT TTGAGAAGGC GGCCTACTTC CGCGACCAGA TTGCCAAGTA TAAGGAAATG      1200

CAAAAGAAAA AGATCACAGA CCAGGATACT CCTAGCATCA GCGAGAAAAC TATTGAGCAC      1260

ATTATCGAGC AGAAAACCAA TATCCCTGTT GGTGATTTGA AAGAGAAAGA ACAATCTCAA      1320

CTCATCCATC TAGCCGAAGA TCTCAAGTCT CATGTTATTG GTCAAGATGA TGCAGTCGAT      1380

AAGATTGCCA AGGCTATTCG CCGTAATCGT GTCGGACTTG GTACCCCTAA CCGCCCAATC      1440
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1077

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GGAAGCTTCC TCTTCGTTGG GCCAACTGGT GTCGGTAAGA CAGAACTTTC CAAACAACTG      1500

GCTATCGAAC TTTTTGGTTC TGCTGATAGT ATGATTCGCT TTGATATGAG TGAATACATG      1560

GAAAAACATA GTGTGGCTAA GTTGGTCGGC GCTCCTCCAG GTTATGTTGG CTATGATGAG      1620

GCTGGTCAAT TAACTGAAAA AGTTCGCCAC AATCCATATT CTCTCATCCT TCTCGATGAA      1680

GTGGAAAAAG CTCACCCAGA TGTTATGCAC ATGTTTCTTC AAGTCTTGGA CGATGGTCGT      1740

TTGACAGACG GGCAAGGACG CACCGTTAGC TTCAAGGATG CCATCATTAT CATGACCTCA      1800

AATGCAGGTA CAGGAAAGAC CGAAGCTAGC GTTGGATTTG GTGCTGCTAG AGAAGGACGT      1860

ACCAATTCTG TCCTCGGTGA ACTCGGTAAC TTCTTTAGCC CAGAGTTTAT GAACCGTTTT      1920

GATGGCATTA TCGAATTTAA GGCTCTCAGC AAGGATAACC TCCTTCAGAT TGTCGAGCTC      1980

ATGCTAGCAG ATGTTAACAA GCGCCTCTCT AGCAACAACA TTCGTTTGGA TGTAACTGAT      2040

AAGGTCAAGG AAAAGTTGGT TGACCTAGGT TATGATCCAA AAATGGGAGC ACGCCCACTT      2100

CGTCGGACTA TTCAAGACTA TATTGAGGAC ACAATCACTG ACTACTACCT TGAAAATCCA      2160

AGCGAAAAAG ATCTCAAAGC AGTTATGACT AGCAAGGGAA ACATTCAGAT TAAATCTGCC      2220

AAAAAAGCTG AAGTTAAAAG TTCTGAAAAA GAAAAATAAA TCCTATAAAA AAGGAGTAGA      2280

AAATGAAATT TTTCTGCTTC TTTTTTTACT AAAATAACTG TAATTTCTTG ACAGCTTGCC      2340

CTTTGTCCAT TATGATATAT AGTAGACTGA ATCTGAAATA GTACGAAACA ATTGCTAAAA      2400

CATTTATAGA AATTAATTTT ACTTTCCCAA TCGATTTGTT CTCATCTTAT TTCAATCTGC      2460

TATAGTCAAT TGAAACAAGA ACAAGACAAA AGAGCCTCAT AAAAGGTATT GCAACTTGGT      2520

AATACCTTTT TGAGGTGCTT TTTGATATGA GCCCATGTTT TCTCAATAGG ATTGTACTCA      2580

GGTGAGTAGG GAGGAAGAGG TAAAAGTTTA TACCCAAACT CTTCACACAA GAGTTCTAAC      2640

TTACCCATTC TATGGAATCT TGCATTATCC ATAATAATAA CCGATGGTGT GGTTAATGTT      2700

GGTAAGAGAA ACTTCTGAAA CCAAGCTTCA AAAAAGTCGC TCGTCATCGT CTCTTCGTAA      2760

GTCATTGGAG CGATTAACTC ACCATTCATT TGTTAGACCT GCAACCAAAG AAATTCTCTG      2820

ATATCTTCTT CCAGATACTT TGCCTCTTCT TAACTGACCT TTTAATGAGC GACCATATTC      2880

TCGATAAAAA TAAGTATCGA ATCCTGTTTC GTCAATCTAA ACAGGTGCTA GGTGCTTTAA      2940

ACTATTAAAA TTCTTAAGAA ATAAGGCTAC TTTTTCTGGG TCTTGTTCAT AGTAGGTGTA      3000

GTTCTTTTTT TTTTCGAGTG TAGCC                                           3025
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(2) INFORMATION FOR SEQ ID NO: 169:

    (i) SEQUENCE CHARACTERISTICS:
       (A) LENGTH: 4104 base pairs

1078
(B) TYPE: nucleic acid
(C) STRANDEDNESS: double
(D) TOPOLOGY: linear


(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 169:

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TTTAAGGTTT TAAAAAAAGT TTTCGAAAGG TTTCTTCTTT ATTTTTTAAG GGAGAGATAA         60

CGTTGATATC TAAATCGTGG TCAAAGCCGG CAATTTTTCC TTTAGATGTG TATTGGTGAA        120

TATCATAATC TAAATCAGTT TTAGGACTGC TCTCCAAAAA TCCTGAGTCT GAGCCGTAGA        180

CGGAATCCAA ACAGAGGTAA ACTTGCCTGT ATCAATACTG TGTTCTTCCA TGAAGTAGAC        240

ACCAACGTAG ATGCCGATGT TTTTAGCACC CAGTGATGCT AGTTTTGCTC GAAAGTTTTC        300

GACACCTTCG TTCATATTAG ACATGGTTTT GTCTTCCACG TCAAGCCAAT AGTAACTAGG        360

GCTGTAAGGA GAGGCAGCAT TGTAGAAAAC TTCGGCAGCC TTTTCCATTT CTTGGACACT        420

TTTTCCAGCT ACATAAGCGT AGACAGCAAC TGGGACATTC CGCTTTTGAA GTTCAGTGAT        480

ATGACTCTTA TAGGCCTTGT CTATTCCATT GATAAATGAA GCATCATTTT CTTTTGTCGT        540

TTGAGCACCA CTGTGAACAC GAACAATAGC ACCTGAAATA TTTTGTGAGA GGGCATCGTA        600

GTTGATTTCC TCAGGACGCT GCCAGCCAGA GAGGTCAATA ATCGGTTTGT CTAAGTGTTT        660

CAAAGCCTGT GCTTCAATCT GTGCTATATT GGATTTTGTT TTAAACGATT GGCTGTCATT        720

AAGTGGGCGA TTGATGATTA AAATGAACAT CATAATCCCA AAAAAACTAA ATAAAATAAG        780

TGGATGAATT TGTTTTCTCA TATCTTATAA TTCTACCCTA AAAATCAAAA AAAATCAAAA        840

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AATATGGTAT AATAAAAGGG AATTTCTACA GAAAAGAGAA GATTATGTCA AATTTTGCCA        960

TTATTTTAGC AGCGGGTAAA GGGACTCGCA TGAAATCTGA TTTGCCAAAA GTTTTGCACA       1020

AGGTTGCGGG TATTTCTATG TTGGAACATG TTTTCCGTAG TGTGGGAGCT ATCCAACCTG       1080

AAAAGACAGT AACAGTTGTA GGACACAAGG CAGAATTGGT TGAGGAGGTC TTGGCTGGAC       1140

AGACAGAATT TGTGACTCAA TCTGAACAGT TGGGAACTGG TCATGCAGTT ATGATGACAG       1200

AGCCTATCTT AGAAGGTTTG TCAGGACACA CCTTGGTCAT TGCAGGAGAT ACTCCTTTAA       1260

TCACTGGTGA AAGCTTGAAA AACTTGATTG ATTTCCATAT CAATCATAAA AATGTGGCCA       1320

CTATCTTGAC TGCTGAAACG GATAATCCTT TTGGTTATGG ACGAATTGTT CGTAATGACA       1380

ATGCTGAGGT TCTTCGTATT GTTGAGCAGA AGGATGCTAC AGATTTTGAA AAGCAAATCA       1440

AGGAAATCAA CACTGGAACA TACGTCTTTG ACAACGAGCG TTTGTTTGAG GCTTTGAAAA       1500

ATATCAATAC CAATAACGCT CAAGGCGAAT ACTATATTAC AGACGTCATT GGTATTTTCC       1560
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1079

GTGAAACTGG TGAAAAAGTT GGCGCTTATA CTTTGAAAGA TTTTGATGAA AGTCTTGGGG    1620

TAAATGACCG TGTGGCGCTT GCGACAGCTG AGTCAGTTAT GCGTCGTCGC ATCAATCATA    1680

AACACATGGT CAACGGTGTT AGCTTTGTCA ATCCAGAAGC AACTTATATC GATATTGATG    1740

TTGAGATTGC TTCGGAAGTT CAAATCGAAG CCAATGTTAC CTTGAAAGGG CAAACGAAAA    1800

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GAGCGGTCAT TACCAATTCT ATGATTGAGG AAAGTAGTGT TGCAGACGGT GTGATAGTCG    1920

GTCCTTATGC TCACATTCGT CCAAATTCAA GTCTGGGTGC CCAAGTTCAT ATTGGTAACT    1980

TTGTTGAGGT GAAAGGATCT TCAATCGGTG AGAATACCAA GGCTGGTCAT TTGACTTATA    2040

TCGGAAACTG TGAAGTGGGA AGCAACGTTA ATTTCGGTGC TGGAACTATT ACAGTCAACT    2100

ATGACGGCAA AAACAAATAC AAGACAGTCA TTGGAAACAA TGTCTTTGTT GGTTCAAATT    2160

CAACCATTAT TGCACCAGTA GAACTTGGTG ACAATTCCCT CGTTGGTGCT GGTTCAACTA    2220

TTACTAAAGA CGTGCCAGCA GATGCTATTG CTATTGGTCG CGGTCGTCAG ATCAATAAAG    2280

ACGAATATGC AACACGTCTT CCTCATCATC CTAAGAACCA GTAGGAGCCT ATCATGGAGT    2340

TTGAAGAAAA AACGCTTAGC CGAAAAGAAA TCTATCAAGG ACCAATATTT AAACTGGTCC    2400

AAGATCAGGT TGAATTACCA GAAGGCAAGG GAACTGCCCA ACGGGATTTG ATTTTCCACA    2460

ATGGGGCTGT CTGTGTTTTA GCAGTAACGG ATGAACAAAA ACTTATCTTG GTCAAGCAGT    2520

ACCGCAAAGC TATCGAGGCT GTCTCTTACG AAATTCCAGC CGGAAAATTG GAAGTAGGAG    2580

AAAACACAGC CCCTGTGGCA GCTGCCCTTC GTGAATTAGA GGAAGAAACA GCCTATACAG    2640

GGAAATTAGA ACTCTTGTAC GATTTTTATT CAGCTATTGG CTTTTGTAAT GAGAAGTTAA    2700

AACTATATTT AGCAAGCGAT TTGACAAAAG TGGAAAATCC GCGTCCGCAG GATGAGGATG    2760

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ATATCTGTGA TGCCAAGACA ATTATGGCTG TTCAGTATTG GGAGTTGCAG AAAAAATAGA    2880

GGAGGTCAGT ATGGGTAAAT CTTTATTAAC GGATGAAATG ATTGAAAGAG CTAATAGAGG    2940

CGAAAAAATT TCAGGTCCTC CTTTGCTAGA TGATAATGAG GAAACTAAGA TTTTACCAAC    3000

CTCTTCTTCC CGTTTTGGTT ATGCCAATCC TAAGGATCAT GGTTTTAGCC AGGAAACCTT    3060

GAAGATTCAG GTCGAACCAT CTATTCATAA AAGCCGTCGT ATTGAAAATA CCAAGAGAAA    3120

TGTCTTCAAT TCTAAGTTGA ATAAAATCTT ATTTGCGGTC ATCTTTCTCT TGATTTTGCT    3180

TGTTTTAGCA ATGAAACTTT TGTAATAGAA AAGGAATTGA AATGAAAATA GGAATTATTG    3240

CTGCTATGCC AGAAGAACTG GCTTATCTGG TCCAGCATTT AGATAATGCC CAGGAGCAAG    3300

1080

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TTGTTTTTGG GAATACCTAT CATACAGGAA CCATTGCTTC TCATGAAGTC GTTCTTGTAG     3360

AAAGTGGAAT TGGTAAGGTC ATGTCTGCTA TGAGTGTGGC GATTTTGGCT GATCATTTCC     3420

AGGTGGATGC CCTTATTAAT ACGGGTTCAG CTGGGGCAGT AGCAGAAGGT ATCGCTGTTG     3480

GGGATGTCGT GATTGCTGAC AAATTAGCCT ATCATGACGT GGATGTCACA GCTTTTGGCT     3540

ATGCTTATGG ACAAATGGCG CAACAACCGC TTTATTTCGA ATCAGACAAA ACCTTTGTTG     3600

CTCAAATCCA AAAGAGTTTA TCTCAATTGG ACCAAAACTG GCATCTTGGT TTGATTGCTA     3660

CAGGAGATAG TTTTGTTGCA GGAAATGACA AGATAGAAGC GATTAAGTCC CATTTCCCAG     3720

AAGTTTTAGC CGTGGAGATG GAGGGGGCAG CTATTGCTCA AGCAGCGCAT GCCCTCAATC     3780

TCCCAGTCTT AGTCATCCGA GCTATGAGTG ACAATGCCAA CCATGAAGCA AACATCTTTT     3840

TTGATGAGTT TATTATCGAA GCTGGACGTC GCTCTGCCCA AGTCTTGTTG ACCTTTTTGA     3900

AGGCTTTAGA TTAAGCGGAA ATTTGACAGT TTTTCTAGCT TATGATAAGA TTTAAGTAAA     3960

GAAAAGCTAG AAAACGTTTC AGAGGATATT ATGAGTATTG AAATGACCGT CAGTGAGATT     4020

GCAGAGGTCT TAGGATTATC TCGCCAAGCA ATCAATAACC GTGTCAAAGA ATTACCAGAA     4080

GAAGACACAG ATAAAAATGA CAAG                                           4104
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(2) INFORMATION FOR SEQ ID NO: 170:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 8876 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear


    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 170:

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CACGGATAGG CTCGGCTTTC ATCAGTCCTC AGGCTGATTT ACTAATAGCA ACTTTCCTCG      60

ACAAAGTCCA CAGCGATACG TnTGGGTATC AATCCTACGC TTACGCTGAT ACCTTTGCTG     120

GCAGGATTGG CAACGATAGA GCTTGATTGG CTTGGAGTTA CTATTGGGCA AGGATGGTAC     180

AAACCGTAAT CCATCCACTG CTTTCAACAG TTCCTTAAAA TCCCGATCCT TGTGTTGATA     240

GCCTTTCCCT TGAAAATAGA GGTGATAATG ACAGAGTTCA TGTCGGACAA TTTTCCTAAA     300

AACGTCCAAC CCCAGTTCCT GATAAACCTT GGGATTAAAA TCCAAATGCC CATCTTTGGG     360

GAAAAATCGC CCACCTGTCG AACGTAGACG CCTATTCCAC TGGACATGAT GGATAAAAGG     420

TCTGCCGAAG TCTTCTAGTG AAACCTGCTT GACGTAATCA GTCAGTTTCA TTTGGAGCTA     480

GGAGAGACAG ATTAACTTTT TCACGTTCAG TATCAATTTT CTTAACCCAA ACGCTCACCA     540

AATCTCCAAC TGCCACCACT TGACTAGGGT GTTTGATAAA CTTGCGACTC ATATGGGAAA     600
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1081

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TATGGATGAG ACCGTCCTCA TGAATTCCGA TATCAACAAA AGCACCGAAA TCAACAACGT        660

TACGCACCAC TCCTTCTAGC TTTTGTCCAA CCACTAAGTC CTTGATATCT AGGACATCTT        720

GGCGAaCACA GGTGCGTCAA AGGAATCACG GAAATCTCGA CCTGGTTTGA GAAGATCTGC        780

AATGATATCT TTAAGAGTTT CTGGACCAAG GTCTAACTCT TGCGCCATTT CCTTGACTGA        840

AAGCGACTTG AGTTTGCTTT GGGCTTCTTC GTTTAGGTCT TTAATATCTA AACGTTTGAA        900

GAGTTCCTTA ACTGCAGTGT AATTCTCTGG GTGAACTCCT GTATTATCAA GGATATTGCT        960

ACTTTCAGGG ATACGAAGGA AACCAGCAGC CTGCTCAAAG GCCTTGGCTC CCAGACGAGG       1020

AACTTTCTTG ATTTGGGCGC GTGAAGTGAT TTTTCCTTCT TCCTCGCGGT ATTTGACAAT       1080

ATTTTCAGAG ATAGTTTTGT TGAGTCCAGC TACGTGTGAA AGAAGAGCTG GGCTAGCTGT       1140

ATTGACATTG ACACCAACTT GGTTAACCAC TGTATCGACA ACAAAGTCCA GACTCTCAGA       1200

TAGTTTCTTC TGACTGACAT CGTGTTGGTA TTGACCGACA CCAATTGACT TAGGATCGAT       1260

TTTGACCAAT TCCGCAAGAG GATCTTGCAA ACGACGGGCG ATAGAAATGG CAGAGCGTTT       1320

TTCAACGGTC AAGTCTGGAA ACTCCTGACG AGCAAGTTCG CTGGCAGAAT AGACAGAAGC       1380

ACCACTTTCA TTAACGATAA CATAGCTGAC TTCAGGGAAA TCTTTCAGAA CTTCCGCTAC       1440

AAAAGCTTCA CTTTCACGAC TGGCCGTTCC ATTTCCAATG GCAATAATCT CTACACCGTA       1500

TTGACCAATT AAATCTGCTA AATCTTTCTT GGCTTCTTCG ATTTGACGAG CTGATGCTGG       1560

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CTTGGCACCT GTACGAAAGG CTGGGTCAAA TCCAAGAACC ACGCGCCCTT TCAGTGGAGC       1680

AACCAAGAGG AGATTGCGCA GATTGTCAGA AAAAAGTTGG ATAGCTCCTT CTTCAGCTTT       1740

CTCAGTTAAT TCTGTCCGAA TACGACGCTC GATAGCAGGC AAGACCTTTT TCTTAACGGA       1800

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AATCTGAAAA ACCTGCTTTT CATCAAGACT TTCATCCTTG GCTTGAGAAG TAAGTTTAGA       2040

GTGTCTCAGC ACTTCCTGAT AAGTCATAGA ACGCAAGGTC ACATCTTCCG ATAAGGCTTC       2100

GACCAAAATA TCAACTGCAC CGGTCAAGGC TTCCTTGCCA GTCGCAAATC CTTCACAGAC       2160

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AAAGAGTCCA GCTTCACGGG CAATGGTTGC CTTGGTACGA CGCTTTTCCT TATAAGGAAG       2280

ATAGAGTTCT TCAACGTCTG CTAATTTTTC GGCAACTAAG ATAGCTTCTT CCAATTCCTT       2340
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1082

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GGTCAACTTA CCTTGTTCTT GAATCTTAGC TAAGACAGCT TCCTTACGGT CATTGAGATT    2400

TGTCAGACTT TTATCCAAAT CAATAATAGC CTTAATCGCC ACCTCATCCA GACTACCAGT    2460

CATGTCCTTG CGATAACGCG CGATAAAGGG AATAGTCGCC CCTTCAGCTG TCAAACTTAG    2520

AACGGTATCA ATTTGCTTTA ACGTCACTCC CAAATCCTGA GAGATTTTTT CATATTTTTT    2580

ATCCATAAAT CTATTATACC ACAAGCTAAA CGTTTCAAAT TAACTCGTAG AACATTTAAA    2640

AAATATGTAG GAAATAGATT TATATGCTAC AGCGCAATAA CTTGCACTTA AAGAGCATTG    2700

CCACCTTTTT TTAACCAAGC CATGATATCA AAAGTATTTA ATGGATCAGA CATAATAGCC    2760

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CGATTGACTA AAATTAATTT ATTAGAATAA GGAAGATTAT CCATCTTATT TAAAATTTCT    2880

TCACTAGCTG AATCTTTATT ATCAAATTTA AAATAAAGAT TATTCCAATT TATGCGTTTT    2940

TTTCTTTTTT CCCACTTAGT TCGTGCTTCT TCAATACTAG AATAATGTAG AAAATGAATA    3000

TCTATATCTC CTAAGTGCCC CAAAGGATAA ACTTCATGAG TCCAGCTCGG TGAAATAAGT    3060

TCCTCTTCGA AAACAAGTTC TTGTTCCATA TAATAACGAA AATGCTTTGT AAGTTTATAA    3120

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TCTAATAAAC TATTTTTATC TCCTTGATGT AACAAAACAA CACTAATTGA GTAAGTCAGT    4080

TTGACTACCT CCCATAATTT TCTGATAATG ATTTTCTTTT TATTTAATTA TAGCACAATT    4140
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1083

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ATGATATATA TCAGGTAATA TCAAGCTATA TTATCTCTTA GCTACTCAAT TTGAAATTTT   4200

AACTTTTCCC TTTTCCGCAA AATAATAGTA TAATAGAGGT AGAATCTAGA ATCGAGGTAC   4260

ACCTATGGCT GTCAAATTTA CAAAACGAGA CGACTTGGAC AAGATGTTTG AAGAGTTTGC   4320

TAAACTCCCT GATTTGAAAC AAGTTACTTT CCCTGATGAC AAAGAGAAAA AAGTCAAAGC   4380

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GCCTATATCT CCATGGTGCT TTCTTTTATC TTGGCTATCG TTCAATTGTA TATCTGGATG   5460

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CTTCTGGCTA TTCCACTTGT CATCGGCTTA ACTTTCCCAA CTGTTAGCTT GGATTCTCAG   5580

ACTGTTTCTG CTAAAGGTTA TCATTTCCCC CTATCGGAAG GAACGGATCT AGCCATTCAG   5640

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TCAGCCTATG AAAAGGAAAT GCGAACGGCG GCGGATAAAT ACTTATCCCA AGATAGTATT   5760

CAGATCACTA ATGAAAACTA TATGGAAGTC ATGGAGGCTA TCTACGACTA TCCAGATGAG   5820

TTTGAGGGCA AGACAATCCA GTTTACAGGC TTTGTCTATA ACGACCCCAG TCATGCCAAT   5880
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1084

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AGTCAATTTC TGTTCCGATT CGGCATTATC CACTGTATCG CAGATTCTGG TGTCTATGGA      5940

TTGCTGACCA AGGGCAATAC CCGGCAGTAT GAAAACAACA CTTGGATAAC AGCCAAAGGA      6000

AAACTGGTCA ATCACTACCA TAAAGAACTC AAACAAAACC TTCCAACCTT GGAAATCGAC      6060

AGCTTTACCA AAGTCGATAA ACCAGAAAAT CCCTATGTAT ATAGAGCTTT TTAAGAAAAT      6120

CAAGATAAAA ACGAACAAGT TCTCTTCTGA ATAACAGAAA AAGAGCCTGT TCGTTTTTTG      6180

TTATATGAAA ATTAGTGACT TGTAGATTTT CATCTTATAC CATTCCCAGC AATACAAGTA      6240

GCTCATAGAA AATAAGCGAG CCACTCATTC ATTAGACTAG CGATTTCTTT AGGTGCTTGA      6300

GTATAAAGCT CATGGCCAAA GTTTTCTAAA AAAATAGTAT CAAAATAGTC TGGCAATTCT      6360

TTTAGGGCTT CCTCTCTCCA TGTAGCTTCA TTAGGATAGC GAGGACTAAT AAACAAGGTA      6420

TCTCCCACTT CTCTCTTAAA AGCTTGTATT TTTCTCCGTA GcGGAGTATC GCTTCTATAT      6480

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GAACATCTAA GTCCGAAACA ATTTGAGATT TGATATAATT TTTAGTTTCC TCTAACTCTG      6660

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TTACTTCTTC AAATTCCGAT GCGAAATAAC GAGCTAAATC TCCTCCAAGA GAATGGCCTA      6780

TCAGACAGAT AGATTCTTCC TCTACAATTT CATTTTTAAA CCATGATTTC AATTCTGTTT      6840

CATCTCGAAG ATGCTTTTCA TATGGATTTA GAAAATAGAC CTGCGAATCT AGTTCTTGAA      6900

GAAAATCCTT GCTATGATAG GCATTGCTTC CCAAACCGCC AATAAAATAT TTTTTCATTC      6960

TCTACTTAAT ACTATGCTTA TTCATCTTTT GTTCAAAGAT AGTTGTGATA ATCTGACGCA      7020

ATTCTTCGCG TTTTTTTTCT GGAATCTCAC CACTTGTTTG AGCTACAGCG TAGAGTTCAG      7080

GGTATTCAAT TGAAATGCGT TTAATCGTAC GTGTTGTAGC ATGTTTTCTG ACAAAAAACG      7140

GGATTCGCTT AATCAAGTCT TGTGGGACTA GCGCCAGAAT CTTCTCAGTA GTTTCTTTGT      7200

CACTAATATT AGACATTGTA AGCCTTTTCT TAATCATTTC CTGTTCTTTT TCTGTAAAAT      7260

CTTTTAATTC CATTCGATTA GTCCTCCTAT TTTCTCTAAG TTAAATTATG TACTAATACA      7320

GATGAAACTA CAAAGAATAA ACTTTAAGAA ATCTTCTCAC TGATAAGATT TTAGCATTAG      7380

ACTTCCTGCG AAACAAAATA TGGTATAGTA GTTCTATGAA TTATGAAGCA AGTAAACAAC      7440

TAACTGATGC ACGATTTAAA CGTCTTGTTG GTGTTCAGCG CACGACTTTT GAAGAGATAT      7500

TAGCTGTATT AAAAACAGCT TATCAACTTA AACACGCAAA AGGTGGACGA AAACCTAAAT      7560

TAAGCCTAGA AGACCTTCTT ATGGCCACTC TTCAATATGT GCGAGAATAC CGCACTTATG      7620

AAGAAATTGC GGCTGATTTT GGTATTCACG AAAGCAACTT AATCCGTCGG AGCCAATGGG      7680
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1085

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TTTAAGTAAC TCTTGTTCAA AGTGGTGTTA CGATTTCAAG AACTCCTCTC AGTTCTGAGG      7740

ACACGGTAAT GATTGATAGC CATTCCCATC AATATCGTAT CTTTGGACAT AGCCAATAAA      7800

TGTTTCATTT TTGCGTGGTT TCTGGCTATT AACGATTGAA ATAACCCACC AACTTATCAA      7860

AAATAGAAAT AAAAATCCTA AGATTACTGT CATATCATAA CACTATTAAA GTTTAACCCA      7920

CTTATCATTA TCCATGATAA AAGGCTTAGC CAGTCCCTCG CCTGTATAAT CCGCATACTT      7980

GGTGCCCAAA TACTTGTAGC AATCTTCCTT ACTAGCAAAT TTAATCGCTT GGTAGGGCTC      8040

TTCGAAAGTC AATTTCTCTA CAAATAAGAA ACCGTCATCA GCAGGTACTA AGACCCCAAC      8100

GTGGCCTACA AACAGATACT CGCCATCCAA ATTGTCGTGC AAGACTACAG ACAGCATTCG      8160

AGCTTTTTCA TTGAATTGAA ATTGTGAGAA GAATGCTTCC ATCTTTTCAG CGTGAACCTT      8220

GACATCTGTA GTTGACTCAG TTGGAACTCT CGAAAATAGA ATATCAAACT CTTCCTTATC      8280

TTGTGAATCA AAGACCTTTC CTTTATCAAT CGCATCATTA TCTAGGAAAA GCAACTGGTC      8340

ATTCTTTTCA AGCTTTGGAA TGGTGACTGA ATTTTTCAAA AGACAATAAC TATTGATACG      8400

GCAGTTGGTC CCAACAAAAT CGCCCTTCTT TTGATTCCAG AGATGACTGA TTTTCTCAAC      8460

ATCGTATTCG GTGTGAGTAA AGGAAGTGAA ATCTCCTGAT AAGCCAGTTG AGCCGACAAT      8520

GGTATTATAG TCATTAACGA GATTAAAAAA TGCATCAACA CTATTTGGAT CCAAGTGAGC      8580

TGATAAGAGA GATTTGACCT CTTCTGTACT TACCTGGTTG TTTAGGTTGG TGTATGAAGC      8640

TTTCCATGGA ACTTTCGCTG AACTGCTTTG CCTTTGATTC GTCCCCTCAG AAGTAGCATG      8700

TTGTTGTTGA CAAGCAGCCA AGCCTAAAAA CAAGGCTGAA CAGATTCCTA ATGTGGCTAA      8760

TTTTCTTGAT TTCTTCATTT CTTTCTCCTA AATGTCTTGG ATTAAAGTTT CTTTAACTAT      8820

TGCTTTACAG ATATTGATTA CTTTCTCATT TAATGTGTTC ATCGTCTTTC CTCCGG         8876
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(2) INFORMATION FOR SEQ ID NO: 171:

        (i) SEQUENCE CHARACTERISTICS:
            (A) LENGTH: 14736 base pairs
            (B) TYPE: nucleic acid
            (C) STRANDEDNESS: double
            (D) TOPOLOGY: linear


        (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 171:

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CGCAAACTTT CGCGGTCGGA AGGTAGTTTT ATGACACGAT TTGAGATACG AGATGATTTC      60

TATCTCGATG GAAAATCATT TAAGATTTTA TCTGGTGCCA TTCATTATTT TAGGGTTCCT     120

CCAGAGGATT GGTATCATTC GCTCTATAAC TTGAAGGCTC TTGGTTTTAA TACGGTAGAG     180
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1086

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ACTTATGTTG CTTGGAATTT ACACGAGCCT TGTGAAGGTG AGTTTCATTT TGAAGGTGAT        240

CTGGATTTAG AGAAATTTCT CCAAATAGCG CAGGATTTGG GTCTCTACGC AATTGTGCGT        300

CCGTCTCCAT TTATCTGTGC GGAATGGGAA TTCGGTGGCT TACCAGCTTG GCTCTTGACC        360

AAGAACATGC GAATTCGCTC ATCCGACCCA GCATATATCG AGGCAGTTGG TCGCTACTAT        420

GATCAGTTAT TGCCAAGACT GGTGCCTCGT TTGTTGGACA ATGGTGGCAA TATTCTCATG        480

ATGCAGGTTG AAAATGAGTA TGGTTCTTAC GGAGAAGATA AGGCTTACCT GAGAGCGATT        540

CGACAGCTAA TGGAAGAGTG TGGCGTAACC TGTCCCCTCT TTACATCAGA TGGTCCATGG        600

CGAGCTACTC TGAAAGCTGG AACCTTAATT GAAGAGGACC TCTTTGTAAC AGGAAACTTT        660

GGTTCTAAGG CACCTTACAA CTTTTCGCAG ATGCAGGAAT TCTTTGATGA ACATGGTAAG        720

AAATGGCCAC TCATGTGTAT GGAGTTCTGG GATGGTTGGT TCAATCGCTG GAAAGAACCG        780

ATTATCACAC GGGATCCTAA GGAATTGGCA GATGCAGTTC GAGAGGTTTT GGAACAAGGC        840

TCTATCAATC TTTACATGTT CCACGGTGGT ACAAACTTTG GTTTCATGAA TGGTTGCTCA        900

GCTCGAGGAA CTTTGGACCT GCCACAAGTT ACGTCTTATG ATTACGATGC CCTTCTGGAT        960

GAAGAAGGAA ATCCAACTGC TAAATATCTT GCAGTCAAGA AGATGATGGC AACACATTTT       1020

TCAGAGTATC CGCAGTTGGA ACCACTCTAC AAAGAGAGTA TGGAGTTGGA TGCTATTCCA       1080

CTAGTTGAAA AAGTTTCTTT GTTTGAAACC TTAGATAGCT TGTCAAGTCC TGTAGAAAGT       1140

CTCTATCCTC AAAAGATGGA GGAGCTGGGA CAAAGTTATG CTACCTACT TTATCGAACA        1200

GAAACAAACT GGGATGCAGA AGAAGAAAGA CTTCGTATCA TTGATGGTCG AGATAGGGCC       1260

CAGCTGTATG TCGATGGTCA GTGGGTTAAA ACTCAATATC AGACAGAGAT TGGGGAAGAT       1320

ATTTTTTATC AAGGTAAAAA GAAAGGGCTA TCTAGGTTAG ATATCTTGAT AGAAAATATG       1380

GGGCGTGTCA ACTATGGGCA TAAGTTCTTA GCGGATACGC AACGTAAGGG AATTCGGACA       1440

GGGGTCTGTA AGGATCTGCA TTTCTTACTA AACTGGAAAC ACTATCCACT CCCACTAGAC       1500

AATCCTGAGA AAATTGATTT TTCAAAAGGA TGGACTCAAG GACAACCAGC CTTTTACGCT       1560

TATGACTTTA CAGTCGAAGA GCCAAAAGAT ACTTACCTAG ACTTGTCTGA GTTTGGTAAG       1620

GGGGTTGCCT TTGTCAATGG GCAGAATCTA GGACGTTTTT GGAACGTTGG CCCAACTCTC       1680

TCACTTTATA TCCCTCATAG CTATCTCAAG GAAGGTGCCA ACCGCATCAT TATCTTTGAA       1740

ACAGAAGGTC AATATAAAGA AGAGATTCAT TTAACTCGTA AACCTACACT AAAACATATA       1800

AAGGGGGAAA ACTTATGACA ATTGTAGGAT GCCGTATTGA TGGACGTTTG ATCCACGGAC       1860

AAGTAGCCAA TCTTTGGGCT GGAAAACTAA ATGTTTCACG CATTATGGTT GTAGACGACG       1920

AAGTTGTCAA CAACGATATT GAAAAGAGTG GTTTGAAACT TGCGACACCA CCAGGTGTGA       1980
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1087

AATTGAGTAT TTTGCCAGTT GAGAAAGCTG CAGCCAATAT TCTTGGTGGC AAATACGATA      2040

GCCAACGTCT CTTTATCGTG GCTCGTAAAC CAGACCGCTT CCTTGGTTTG GTAGAAGCAG      2100

GTGTACCACT TGAAACCCTT AATGTTGGGA ATATGTCTCA AACACCAGAA ACTCGTTCTA      2160

TTACACGTTC TATCAACGTA GTAGACAAGG ATGTGGAAGA CTTCCACAAA CTGGCAGAAA      2220

AAGGTGTTAA ACTTACTGCT CAGATGGTTC CAAATGATCC AATTTCAGAC TTTTTGAGCT      2280

TATTAAAATA GGAAAAAAAT TTTTAGGAGG TCATTGTTAT GATACAATGG TGGCAAATTT      2340

TACTTCTCAC TTTGTACTCA GCTTATCAAA TCTGTGATGA GTTGACGATC GTTTCATCTG      2400

CAGGTTCCCC TGTATTTGCT GGTTTCATTA CTGGTTTAAT CATGGGAGAT GTGACTACTG      2460

GTTTACTTAT CGGTGGTAAC TTGCAACTGT TCGTTCTTGG GGTTGGTACC TTCGGTGGTG      2520

CTTCTCGTAT CGACGCAACT TCTGGTGCGG TTCTTGCGAC ACCTTCTCTG TTTCACAAGG      2580

AATTGATGCA CCGCTTGCCA TTACTACAAT CGCTGTACCA GTAGCAGCTC TCTTGACTTA      2640

CTTCGACGTT CTTGGTCGTA TGACTACTAC CTTCTTCGCT CACCGTGTGG ATGCTGCAAT      2700

CGAACGCTTT GACTATAAAG GTATTGAACG CAACTACTTG CTTGGTGCGA TTCCGTGGGC      2760

TCTATCTCGT GCCCTTCCAG TCTTCTTTGC CCTTGCTTTT GGTGGTGCCT TTGTACAATC      2820

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TATGCTTCCA GGTCTTGGAT TTGCAATCTT GCTTCGTTAC CTTCCAGTTA AACGTAACCT      2940

TCACTACCTT GCTATGGGAT TTGGTTTGAC AGCTATGTTG ACTGTTCTTT ACTCATATGT      3000

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AAAAATTGGT TTCGTGAACA ACTTCAAAGG TTTGTCTATG ATTGGTATTT CTATCGTAGG      3120

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AACGTATGCA AGCTTCTGGT TACCTTTACA TGATCTTGCC TCAGTTGCGT AAAATGTATG      3360

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CACCATTCTT CCATACCATT ATCGCTGGTT TTGACCTTGC CATGGAAGAA AAAGATGGTG      3480

TAGGTTCAAA AGACGCCGTT AACGGTATCA AGACAGGTTT GATGGGACCA TTCGCTCCTC      3540

TTGGGGATAC AATCTTTGGT TCACTTGTAC CTGCTATCAT GGGGTCAGTC GCAGCAACTA      3600

TGGCTATCGC TGGCCAACCT TGGGGGATCT TCCTTTGGAT TGCAGTTGCA GTAGCGTATG      3660

ACATCTTCCG TTGGAAACAG TTGGAATTTG CTTACAAAGA AGGGGTTAAC CTTATCAACA      3720

1088

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ACATGCAAAG TACCTTGACA GCTTTGATTG ACGCTGCATC TGTACTTGGT GTCTTCATGA   3780

TGGGTGCTCT TGTAGCAACA GTGATTAACT TTGAAATTTC TTACAAGTTG CCAATCGGTG   3840

AAAAGATGAT TGATTTCCAA GACATCTTGA ACCAAATCTT CCCACGTTTG CTTCCAGCAA   3900

TCTTTACTGC CTTTATCTTC TGGTTGCTTG GTAAGAAAGG TATGAACTCT ACTAAAGCTA   3960

TCGGTATTAT TATCGTACTT GCTTTGGCTC TTTCTGCCCT TGGTCACTTT GCACTTGGAA   4020

TGTAATTCCT TATGACTAAA TCATTAATTT TGGTGAGCCA TGGTCGCTTC TGTGAGGAGC   4080

TTAGAGGTAG CACAGAAATG ATTATGGGCC CACAAGACAA CATTTACACA GTAGCTCTTC   4140

TTCCAGAAGA TGGCCCAGAA GAATTTACTG CTAAATTTGA AGCTGTTATT GAAGGATTGG   4200

ATGATTTCCT AGTCTTTGCG GATCTTCTCG GTGGGACACC TTGTAATGTG GTGAGTCGCT   4260

TGATCATGGA AGGTCGTGAT ATTGACCTTT ACGCAGGGAT GAATCTTCCA ATGGTGATTG   4320

AATTTATCAA TGCGAGCCTT ACAGGCGCAG ATGCGGACTA CAAGAGCCGT GCTGCAGAAA   4380

GCATTGTGAA AGTTAATGAC CTGTTAGCGG GCTTCGATGA TGACGAAGAT GAATAATACT   4440

CTTCGAAAAT CTCTTCAAAC TACGTCAACG TCGCCTTGCC GTAGgTATAT GTTACTGACT   4500

TCGTCAGTCT TATCCGGCAA CCTCAAAACG GTGTTTTGAG CTGACTTCGT CAGTCTTATC   4560

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GCAGCCTTCC TACAAGAAAT CGCTGATAAA CATGACTATA TTAAGGTTAT CTTGACAGGT   4920

GCTGGGACTT CTGCTTATGT GGGAGATACC TTGCTACCTT ATTTTAAGGA AGTCTATGAC   4980

GAACGCAAAT GGAATTTCAA TGCTATTGCG ACAACAGATA TCGTTGCCAA TCCAGCAACC   5040

TATTTGAAAA AAGATGTGGC AACTGTCCTT GTGTCTTTTG CTCGTAGTGG GAATTCGCCT   5100

GAAAGTTTGG CGACTGTTGA TTTGGCCAAA TCCTTGGTGG ATGAGCTTTA TCAAGTGACG   5160

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TTGCTCTTGC AACCAGCTGT CTCTAATGAT GCTGGATTTG CCATGACTTC TAGCTTTACG   5280

TCTATGATGT TGACAACTCT CTTGGTCTTT GATCCTACAG AATTTGCTGT TAAGTCTGAA   5340

CGTTTTGAAG TTGTATCTAG TCTTGCCCGT AAAGTTTTAG ACAAGGCAGA AGATGTCAAA   5400

GAGCTCGTTG ATTTAGACTT TAACCGTGTC ATCTATCTAG GCGCTGGTCC TTTCTTTGGA   5460

CTTGCTCATG AAGCTCAGCT CAAGATTTTG GAATTAACTG CTGGTCAAGT TGCGACCATG   5520
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1089

| | | | | | |
|---|---|---|---|---|---|
| TATGAAAGCC | CAGTTGGCTT | CCGTCACGGT | CCAAAATCTC | TTATCAACGA | CAATACAGTT | 5580 |
| GTTTTGGTCT | TTGGTACAAC | GACAGACTAC | ACTCGTAAGT | ACGACTTGGA | CTTGGTTCGT | 5640 |
| GAAGTTGCTG | GTGACCAGAT | TGCTCGTCGT | GTTGTGCTTT | TGAGTGATCA | AGCTTTTGGT | 5700 |
| CTTGAAAATG | TCAAAGAAGT | GGCCCTTGGT | TGTGGCGGTG | TCTTGAATGA | TATTTACCGT | 5760 |
| GTCTTCCCTT | ACATCGTTTA | TGCCCAACTC | TTTGCTTTAT | TGACTTCACT | CAAGGTAGAA | 5820 |
| AATAAACCAG | ATACACCGTC | TCCTACAGGT | ACAGTAAACC | GTGTAGTACA | AGGTGTCATA | 5880 |
| ATTCACGAAT | ATCAAAAGTA | AGACAGTGTT | TATGAATTCT | TGACAAGAGG | ATTTGTAAAT | 5940 |
| TATCAGATAA | ACCATAGATT | GTCAGTACGC | TTTCTATGGT | TTGTTTGCTT | GAGAGAAATA | 6000 |
| GTAAAAGGAG | AACAGAATGA | AAGCATACAC | AGAGCGTGTA | TTTGGAAATG | TTGAGGGTGA | 6060 |
| GGATGTCTTG | GCCTATCGAT | TTGAGACAGA | CGGTGGCTAC | CAACTTGAGG | TTATGACTTA | 6120 |
| TGGTGCGACT | ATCTTGCGCT | ATGTCGCACC | TGACAAGGCT | GGAAATTTTG | CCAATGTTAT | 6180 |
| CTTGGGATTT | GATGACTTTG | ATAGTTATGT | AGGCAATAGT | CCCAAGCATG | GAGCAAGTGT | 6240 |
| AGGTCCTGTA | GCGGGTCGTA | TTGCAGGTGC | GACCTTTGAG | CTCAATGGTA | AGACCTATGA | 6300 |
| CCTTGAGGTT | AATAATGCTA | GCAACTGTAA | TCACAGTGGT | TCAACTGGTT | GGGATTCCAG | 6360 |
| CTTGTTTGAA | GTTGAAGAAG | TAAGCGATCA | TGGCTTGACT | CTCTACACAG | AGCGTACAGA | 6420 |
| TGGGACAGGA | GGGTTCCCTG | GAAATCTCAA | GATTTGGATC | AGTTATCACT | TGGAAGAAAC | 6480 |
| TGGTGCCTAT | GAAATCAGCT | ACAAGGTAAC | GACCGATCAG | GATACGCTGG | TCAATCCAAC | 6540 |
| CAACCACAGC | TATTTCAACT | TGTCTGGTGA | TTTCACGCAG | ACGATTGACC | GTCATGTCTT | 6600 |
| CCAACTAAAC | ACAGAGGGCA | TTTACTCAAT | CGCTCCTGAC | GGTGTTCCTG | CCAAAACTCC | 6660 |
| AGAAGCCAAC | CGTGATGTGG | TCAAACACGT | CTACAATGGT | ACCTTGTTGA | AGGATATCTT | 6720 |
| TGCAGAAGAA | GATGAGCAAA | TCCAGCTGGC | ATCAGGTTTG | GATCATCCAT | TTGCCCTTCC | 6780 |
| TGCAGGCCAT | GACAATGCTG | GATTCCTTTA | TGACCAAAAT | TCAGGTCGCT | TCCTGCTTTT | 6840 |
| CAAGACAGAA | GCTCCTTGCT | TTGTGGTCTA | CACAGCAAAC | TTTGTGGATG | AAAGTGTCAT | 6900 |
| CATAGGAGGT | CAGCCAATGC | TACAGCACAA | TGGGATTGCT | CTTGAAGCGC | AAGCTTTACC | 6960 |
| AGATGCCATT | CACAGTGACC | TTAAAGGCCA | AGTCATTCTT | AAAGCTGGTC | AAACCTTCAC | 7020 |
| CAGTAAGACA | CGTTATGAAC | TTGTTGTGAA | GTAAAAGAGT | CATTGCGCCT | ACTTTTGGGA | 7080 |
| GCTAGGAATA | GGTACGCAGA | GACAAATAGT | AGGAAAAATAT | GATATAACTA | AGCGTTGAAA | 7140 |
| GCTATCTGTT | AATATAATAT | TCAAACTACA | ATAAGGAGTA | AGAAAGAAAC | GAAGAAAATT | 7200 |
| GTATTTGCTA | GTGCCTTGGC | TTTGACCTTG | GCTGGAGCAG | TTTTGACAAA | TGATGTTTTT | 7260 |

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                                 1090
GCGAACGACA GACTTGTGGC AACACAAACT ACTGATGGTA AAAATGAAAA TGTATTGACC          7320

TCAGAGGTGC TAAAACCTTC TAGTGGCAAT GTTTTGGTTG GAATCAAAGG AGAATTTGTG          7380

GCTCCTCATC AACAATCTAT TTTGGATGCC ATCAATGCTA TCTGTAAAGA AGCGGCTGAC          7440

GAAGGTTTGG TAGATAAGTA TGTCCCTATC AAATGATCAA CTGACCTAGA AAAGGCAGCT          7500

TTTGCCAGAG CTACAGAAGC ATCTATAACC ATGGATCATA CCCGTCTTTC TAGCAAAGAT          7560

CTTTGGAGTG CCTTTCCAAC TTCTAATAGT ATAATGGGAG AAAATTTGGC ATGGAATCAT          7620

GACGGTTTTC TAAAAGCTAT TGAACAATGG CGTGCTGAAA AAGCAGATTA TGTGGAGAAA          7680

AAAATAGTGG TTCAGACAAC GGGAAATCTG GTCACTATGA GTCGCTAATT AACCCTAAAT          7740

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TTGCTCAAAC TCTAGGTGAT GATGCTTCTT CAGAGGAATT GGCTGGTAGA TATGGTTCTG          7860

CTGTTCAGTG TACAGAAGTG ACTGCCTCAA ACCTTTCAAC AGTTAAAACT AAAGCTACGG          7920

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CAGATGGTAA ATGGTACTAT TTGAATGACT TAGGTGTCAT GCAGACTGGA TTTGTAAAAT          8100

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TCGGACCACA CTGGTACTAT GCCTACGGTT CAGGAGCTTT GGCTGTGAGC ACAACAACAC          8340

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TATCGATTTA TTGTATAATG ATAAGTAATT GTTGAAAAGT ACTCAGAAAA TTCCATACTA          8760

TATTATTTTT ATGTTATAC TTTTATGCTA TAAAATATAG ATTGATATAA AGAATATAGA          8820

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GGGATTCAAT CGGTATCGGC CGATAATATG GAAAGTCCAA TTCATTATAA GTATATGACC          9000

GAGGGTAAAT TGACAGACGA GGAAAAATCC TTGCTGGTAG AGGCCCTTCC ACAACTGGCT          9060
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1091

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GAAGAATCAG ATGATACTTA TTACTTGGTT TATAGATCTC AACAGTTTTT ACCGAATACA    9120

GGTTTTAACC CAACTGTTGG TACTTTCCTT TTTACTGCAG GATTGAGCTT GTTAGTTTTA    9180

TTGGTTTCTA AAAGGGAAAA TGGAAAGAAA CGACTTGTTC ATTTTCTGCT GTTGACTAGC    9240

ATGGGAGTTC AATTGTTGCC GGCCAGTGCT TTTGGGTTGA CCAGCCAGAT TTTATCTGCC    9300

TATAATAGTC AGCTTTCTAT CGGAGTCGGG GAACATTTAC CAGAGCCTCT GAAAATCGAA    9360

GGTTATCAAT ATATTGGTTA TATCAAAACT AAGAAACAGG ATAATACAGA GCTTTCAAGG    9420

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GCGGAAGAGG AAGTATTGGC GACGACAAAT GATCGACCAG AGTATAAACT TCCATTGGAA    9780

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CCAGGTCATG AGGGCAAAGC TACAGTCCGC GAAGAGACTC TAGAGTACAC GGAACCGGTA    10020

GCGACAAAAG GCACACAAGA ACCCGAACAT GAGGGCGAAg cGGCAGTAGA AGAAGAACTT    10080

CCGGCTTTAG AGGTCACTAC ACGAAATAGA ACGGAAATCC AGAATATTCC TTATACAACA    10140

GAAGAAATTC AGGATCCAAC ACTTCTGAAA AATCGTCGTA AGATTGAACG ACAAGGGCAA    10200

GCAGGGACAC GTACAATTCA ATATGAAGAC TACATCGTAA ATGGTAATGT CGTAGAAACT    10260

AAAGAAGTGT CACGAACTGA AGTAGCTCCG GTCAACGAAG TCGTTAAAGT AGGAACACTT    10320

GTGAAAGTTA AACCTACAGT AGAAATTACA AACTTAACAA AAGTTGAGAA CAAAAAATCT    10380

ATAACTGTAA GTTATAACTT AATAGACACT ACCTCAGCAT ATGTTTCTGC AAAAACGCAA    10440

GTTTTCCATG GAGACAAGCT AGTTAAAGAG GTGGATATAG AAAATCCTGC CAAAGAGCAA    10500

GTAATATCAG GTTTAGATTA CTACACACCG TATACAGTTA AAACACACCT AACTTATAAT    10560

TTGGGTGAAA ATAATGAGGA AAAATACTGAA ACATCAACTC AAGATTTCCA ATTAGAGTAT    10620

AAGAAAATAG AGATTAAAGA TATTGATTCA GTAGAATTAT ACGGTAAAGA AAATGATCGT    10680

TATCGTAGAT ATTTAAGTCT AAGTGAAGCG CCGACTGATA CGGCTAAATA CTTTGTAAAA    10740

GTGAAATCAG ATCGCTTCAA AGAAATGTAC CTACCTGTAA AATCTATTAC AGAAAATACG    10800
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                              1092
GATGGAACGT ATAAAGTGAC GGTAGCCGTT GATCAACTTG TCGAAGAAGG TACAGACGGT    10860

TACAAAGATG ATTACACATT TACTGTAGCT AAATCTAAAG CAGAGCAACC AGGAGTTTAC    10920

ACATCCTTTA AACAGCTGGT AACAGCCATG CAAAGCAATC TGTCTGGTGT CTATACATTG    10980

GCTTCAGATA TGACCGCAGA TGAGGTGAGC TTAGGCGATA AGCAGACAAG TTATCTCACA    11040

GGTGCATTTA CAGGGAGCTT GATCGGTTCT GATGGAACAA AATCGTATGC CATTTATGAT    11100

TTGAAGAAAC CATTATTTGA TACATTAAAT GGTGCTACAG TTAGAGATTT GGATATTAAA    11160

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GTTGCTACTG GAGAAATACG AAATGGTCAA GGATATTCTA GAGTCGGAGG AATAGTAGGA    11580

TCTACGTGGC AAAACGGTCG AGTAAATAAT GTTGTGAGTA ACGTAGATGT TGGAGATGGT    11640

TATGTTATCA CCGGTGATCA ATACGCAGCA GCAGATGTGA AAAATGCAAG TACATCAGTT    11700

GATAATAGAA AAGCAGACAG ATTCGCTACA AAATTATCAA AAGACCAAAT AGACGCGAAA    11760

GTTGCTGATT ATGGAATCAC AGTAACTCTT GATGATACTG GGCAAGATTT AAAACGTAAT    11820

CTAAGAGAAG TTGATTATAC AAGACTAAAT AAAGCAGAAG CTGAAAGAAA AGTAGCTTAT    11880

AGCAACATAG AAAAACTGAT GCCATTCTAC AATAAAGACC TAGTAGTTCA CTATGGTAAC    11940

AAAGTAGCGA CAACAGATAA ACTTTACACT ACAGAATTGT TAGATGTTGT GCCGATGAAA    12000

GATGATGAAG TAGTAACGGA TATTAATAAT AAGAAAAATT CAATAAATAA AGTTATGTTA    12060

CATTTCAAAG ATAATACAGT AGAATACCTA GATGTAACAT TCAAAGAAAA CTTCATAAAC    12120

AGTCAAGTAA TCGAATACAA TGTTACAGGA AAAGAATATA TATTCACACC AGAAGCATTT    12180

GTTTCAGACT ATACAGCGAT AACGAATAAC GTACTAAGCG ACTTGCAAAA TGTAACACTT    12240

AACTCAGAAG CTACTAAAAA AGTACTAGGA GCAGCGAATG ATGCAGCCTT AGATAACCTA    12300

TACTTAGATA GACAATTTGA AGAAGTTAAA GCTAATATAG CAGAACACCT AAGAAAAGTA    12360

TTAGCGATGG ATAAATCAAT CAATACTACA GGAGACGGTG TAGTTGAATA CGTAAGTGAG    12420

AAAATCAAAA ATAACAAAGA AGCATTTATG CTAGGTCTTA CTTATATGAA CCGTTGGTAC    12480

GATATTAATT ATGGTAAAAT GAATACAAAA GATTTATCTA CGTACAAGTT TGACTTTAAC    12540

GGAAATAATG AGACTTCAAC GTTGGATACT ATTGTCGCAT TAGGAAATAG TGGACTAGAT    12600
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1093

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AACCTGAGAG CTTCAAATAC TGTAGGTTTA TATGCGAATA AACTTGCATC GGTAAAAGGA   12660

GAAGATTCAG TCTTTGACTT CGTAGAAGCG TATAGAAAAC TGTTCTTACC AAACAAAACA   12720

AATAACGAGT GGTTTAAAGA AAATACAAAG GCATATATAG TCGAAATGAA GTCTGATATT   12780

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AATCTTCTTG ACAGTGCTTC AAAAGAAAAA CTTTTCCGTT CTGTGATAGT TTATGATGGA   13140

TTCAATGTAA AAGATGAGAC AGGAAGAACT TATTGGGCAA GGTTAACGGA TAAAAACATC   13200

GGCTCTATTA AAGAATTCTT CGGACCTGTT GGGAAATGGT ATGAGTATAA TAGTAGTGCA   13260

GGAGCGTATG CGyAtGGAAG TTTAACGCAC TTTGTGTTAG ATAGATTATT AGATGCTTAT   13320

GGAACGTCGG TTTATACTCA TGAAATGGTT CATAATTCTG ATTCTGCAAT CTACTTTGAA   13380

GGAAATGGTA GACGTGAAGG ATTGGGAGCG GAGTTATACG CACTTGGTTT ACTGCAATCT   13440

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GGTGAGTACT CATCATGGGC TGATTTCAAA AAAGCAATGT TTAAACAACG TATAGATAAA   14160

CAAGATAATC TGAAACCAAT AACAATTCAA TACGAATTAG GTAATCCTAA TAGTACAAAA   14220

GAAGTAACTA TAACAACGGC TGCACAAATG CAACAATTAA TTAATGAAGC GGCTGCGAAA   14280

GATATTACTA ATATAGATCG TGCAACGAGT CATACCCCAG CAAGTTGGGT GCATTTATTA   14340
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1094

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AAACAAAAAA TCTATAATGC ATATCTTCGC ACTACAGATG ACTTTAGAAA TTCTATATAT        14400

AAATAAGATT GTAGAGTTTC ATTGTTGAGT AGTGTTTCTT GTAAGGATGA GGAGTCAGAT        14460

GACAAATCGA CTCCTTTTTC TTATGGATCG ATGTAGAGAT TTGATTGAAT GCAGATTGCA        14520

GGAATCATCT TCAACTCATC AACGACCAAT GGTGACAAGG TGGATTTCAA TCCCACAGAA        14580

AATGTTGATT TGAGAAATAA CTTTGCTAGT CTAGTAAAAT AAATACAAAA CAATCCTAGA        14640

AGATTTTTTC TGGGATTGTT TTTTGCTGAG TGGGATGCTT CAAGTTGTCT GGCTTGACTT        14700

TCTTGAGGGA AGTTATATAA TAGTTGTAAT AATTAG                                  14736
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(2) INFORMATION FOR SEQ ID NO: 172:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 11770 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear


    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 172:

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ACAGGAAAGC ACGATAGCAA TCTCTTTGGA AGATTTAAAA AATATTCCTC AAAGTTTCGC          60

TGTTGCTTAC GGTGATACGA AAGTATCTTC GATTCTCTCT GTCTTGCGTG CTAATTTAGT         120

AAATCATTTG ATTACAGACA AAAATACAAT TTTAAAAGTT TTGGAAGAAG ATGGGGATTT         180

GACTTTTAGA GAGATTCTAG GTGAGTGAAA ATGATAGACT GATTCAGTTT ATCGTTTTTC         240

TTTTTAGTTG ATTGCACATT TGTGCTTATA TAAACAAAAA TAGTTTATCT GTTGTTTTTG         300

GATTGACAAC TTTATTATGT AGTTGTATTC TATAGTTACA AAAGAAAATT TTAAAATTTC         360

AAATGAAAAA AGCTTTTTAC ATAGTGAAAT GAGGAGGAAT TTATGGAAAT GATTGTTCCA         420

GATCAAATTA TCATGGGTTT AATTTTATAT GCTGGTGATG CGAAACAACA TATTTATAAA         480

GCGTTAGATT ACATAAAAAA TGGTACATGT GAACGGTGTG AAGAAGAAAT ACAGTTAGCT         540

GATGCAGCCT TATTAGAAGC TCATAATCTA CAAACAAAAT TTTTGGCACA GGAAGCGTCT         600

GGTACAAAGA CAGAAATTAC AGCTCTCTTT GTTCATTCAC AAGATCATCT CATGACCAGT         660

ATGACGGAGA TTAATTTAAT CAAAGAAATT ATTAGTTTGA GAAAAGAACT TCATAAAAAA         720

TAATACTAGA GTATTATCAT TGTTATTAAC ATAGAGGAGG AAAACATAAT GGTGAAGATT         780

GGTTTGTTTT GTGCAGCAGG TTTTTCTACT GGTATGCTTG TAAATAATAT GAAAATTGCA         840

GCGCAATCTA GTGGAGTTGA GGCAGAAATA GAGGCGTTTT CTCAGTCTAA ATTAGCGGAT         900

TATGCGCCAA ATATAGATGT TGCACTATTG GGTCCACAAG TTGCTTATAC ATTAGATAAA         960

TCAAAAGAAA TTTGTGATAA GTGTGATGTT CCGATAGCTG TTATTCCGAT GATGGACTAT        1020
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1095

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GGTATGTTAG ATGGGAAAAA AGTATTAGAT TTGGCCCTAT CTTTGATTAG TGGGTAAGAA      1080

AAGGAGATTT ATTATGTCAA AGATGGATGT TCAGAAAATC ATTGCACCGA TGATGAAGTT      1140

TGTGAATATG CGTGGCATTA TAGCTCTAAA AGATGGGATG TTAGCAATTT TGCCATTGAC      1200

AGTAGTTGGT AGTTTGTTCT TGATTATGGG ACAATTGCCG TTCGAAGGAT TAAATAAGAG      1260

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TTTTGCTATT ATGGGTCTAA TTTCTTGTTT TTCAATTGCC TATTCTTATG CTAAGAATAG      1380

CGGAGTAGAG GCTTTACCAG CTGGAGTTCT ATCTGTATCT GCATTCTTTA TTTTGCTAAG      1440

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TGGAGGCCAA GGAATTATCG GTGCTATCAT TATAGGTTTG GTAGTAGGAA GTATTTATAC      1560

CTTCTTTATA AAGAGAAAAA TTGTTATTAA GATGCCAGAA CAAGTTCCAC AAGCTATTGC      1620

CAAACAGTTT GAAGCAATGA TTCCAGCATT TGTAATTTTC TTATCTTCTA TGATTGTATA      1680

TATTTTAGCG AAGTCATTGA CTAATGGCGG AACATTCATA GAAATGATTT ATTCTGCTAT      1740

TCAAGTTCCG TTGCAAGGTT TAACTGGATC TTTGTATGGT GCTATTGGAA TTGCATTCTT      1800

TATATCATTT TTGTGGTGGT TTGGTGTTCA TGGGCAATCG GTAGTAAATG GAGTAGTGAC      1860

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ATTAGAAAAT GGTGCACATA TTGTTACTCA ACAATTTTTA GATTCATTTT TAATTCTATC      1980

AGGTTCAGGG ATTACGTTTG GTCTTGTAGT TGCCATGCTT TTTGCAGCAA AATCAAAACA      2040

ATACCAAGCC TTAGGAAAAG TTGCAGCTTT TCCAGCAATA TTTAACGTAA ATGAGCCAGT      2100

TGTATTTGGA TTTCCGATTG TCATGAATCC AGTTATGTTT GTACCTTTCA TTCTTGTTCC      2160

TGTACTTGCA GCTGTGATAG TATATGGAGC TATTGCAACA GGTTTCATGC AGCCATTCTC      2220

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AGAATATTTT GGCAGCCTTA CTGAAAGGAT GAACAAATAT CGAGAAGATG TTTTAAATAA      2640

AAAACCTTAT ATTGATGCTG AGAGAGCAGT TCTAGCAACA CGCGCCTATG AACGATACAA      2700

GGAACAACCT AATGTCCTAA AACGTGCATA TATGCTGAAA GAAATTTTGG AAAATATGAC      2760
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                                      1096
TATCTATATT GAAGAAGAAT CTATGATTGC GGGAAATCAA GCTTCTTCCA ATAAAGATGC     2820

TCCTATTTTT CCGGAATATA CGCTAGAATT TGTTCTCAAT GAGTTGGATC TTTTTGAAAA     2880

GCGTGATGGA GATGTTTTCT ATATTACAGA AGAAACAAAA GAACAACTTA GAAGTATTGC     2940

TCCGTTTTGG GAAAATAATA ATTTACGTGC TAGAGCTGGT GCCTTATTAC CTGAAGAAGT     3000

GTCTGTTTAT ATGGAAACAG GATTCTTCGG TATGGAAGGT AAGATGAATT CTGGAGATGC     3060

TCACTTAGCA GTTAACTATC AGAAACTTTT GCAATTTGGT TTAAGAGGTT TTGAAGAGCG     3120

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TGCTCTTGCT AAAAGTTTAG CCGAAAATGC AAATCCTAAA CGTAAGAAAG AATTACTTGA     3300

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TCAATCAGTT TGGTTTATTC AATGTATTTT ACAAATTGAA TCTAATGGCC ACTCTCTTTC     3420

ATATGGCCGT TTTGATCAAT ATATGTATCC ATATATGAAG GCTGATTTAG AAAGTGGTAA     3480

AGAAACAGAA GATAGCATTG TTGAACGTCT GACAAATCTT TGGATTAAGA CAATTACAAT     3540

TAATAAGGTT CGCAGTCAAT CACATACATT TTCTTCAGCA GGAAGTCCTT TATATCAAAA     3600

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TGCTTATGAC ATTTATGTTG ATGAAATTGC TAAATATCCT AATACACGTT ATGGAAGAGG     4500

GCCTATTGGA GGAATTCGTT ATTCAGGAAC ATCTTCTATC TCAGCCAACG TAGGGCAGGG     4560
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1097

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GAAACATCCT GAAAAACACA GAGACTTAAT TGTTCGTGTT GCAGGATACT CTGCATTCTT      4920

CAATGTTCTT TCTAAGGCAA CCCAAGATGA CATTATAGGA CGTACTGAGC ATACTTTGTA      4980

AAATAAAGAG GTTCTTTTTA TGGAATTTAT GCTTGACACA TTAAATTTAG ATGAGATTAA      5040

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AGAGGGTTCT ATTAATTTTT TTGAACGAAT CAAAGATGTA AGAGAATTGA TTGGCTCTAC      5160

ACCCTCTATT CATGTTCAGG TGATTTCTCA AGATTTTGAA GGCATCTTAA AGGATGCTCA      5220

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TATTGATAGA CAGAACTCTC CTAGTAAGAT TTTAGCTGCA TCCTTTAAAA ATGTAGCACA      5520

AGTAAATAAT GCTTTAGCTG CAGGTGCGCA TGCTGTTACA GCAGGAGCGG ATGTTTTTGA      5580

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CCAGATTTAG TTTTGGTTGA TACAAAAGTT ATTTCACAAG CCCCTAAGCG TTTATTAGCG      6180

TCTGGTATTG CAGATGGTTT AGCAACTTGG GTTGAGGCGC GTGCGGTTAT GCAGGCAAAT      6240

GGAAAAACTA TGTTGGGACA ACAGCAAACA TTGGCTGGAG TTGCAATTGC GAAGAAATGT      6300
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1098

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CACACTTTTC GGTGCGACTT TCACTGTCTT GGCTCCTGAA CATGAATTAG TAGACGCTAT    8040

CACAAGTTCA GAGCAAGCAG AAGCTGTAGC AGACTATAAA CACCAAGCCA GCCTTAAGTC    8100
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1099

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TGACTTGGCT CGTACAGACC TTGCTAAAGA AAAAACAGGG GTTTGGACTG GTGCTTATGC    8160

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AsCCAACTAA ATTAGTTAAC ATTGTTGTGA AATAAGATAG GAGTCCTTCA GAGTAGAATC    9840
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     GAACTGGTCA GCCTTTTAAA TCAGATGTTG GCTCGTAAGG ACCGTTTTTA TTATGCAATC     10200

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     GGAACAGAAG CCCAGTATCT CTTGGCTTGC TATGTCTTTG AGGAGCTTAA CTATCGTCGC     10380

     TATGAGTGGA AATGCGATGC TCTTAACCTG CCATCCAGAC GAGCAGCGGA ACGTTTGGGA     10440

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     TTGCGTCCTG AAAACTTTGA TAAAAATGGA CGACAGCACA AGAGCTTGAG AGAACTTTAA     10620

     GAGGTGTTGA GATGATTACT ATTAAAAAGC AAGAAATTGT CAAGCTAGAG GATGTTTTGC     10680

     ATCTCTATCA GGCTGTCGGT TGGACAAACT ATACCCATCA AACAGAGATG CTGGAGCAGG     10740

     CCTTATCTCA TTCATTAGTA ATTTATCTGG CACTTGATGG TGATGCTGTG GTGGGCTTGA     10800

     TTCGTTTGGT TGGAGATGGT TTTTCATCAG TTTTTGTACA GGATTTGATT GTTTTGCCTA     10860

     GCTATCAGCG TCAAGGGATT GGTAGCTCCT TGATGAAAGA GGCTTTAGGA AATTTTAAAG     10920

     AGGCCTATCA AGTCCAGCTG GCGACAGAAG AGACAGAAAA AAACGTGGGA TTTTATCGTT     10980

     CTATGGGCTT TGAAATCTTA TCCACCTATG ACTGTACAGG AATGATTTGG ATAAACAGAG     11040

     AAAAATAAAA AAACTTGTTT GTTCTTAAGC AAAGTTTAAG GATGGTCTAG TATCATATAG     11100

     TCATTAAATA AAGACCTCCT AACTTTATTT AATAAAATCC TAAACTTTTT TCATCACAAT     11160

     CTCCTAATGA AGCCACCCAA TCAGGTGGCT TTTTTGCGGT ACGACGGGCA TGTCGTATAT     11220

     CTGAGGTGTA AGTCCTCAGC CTGACTATCG TGAGGTAGCA GGGAGAGGAA GGGATAGCGA     11280

     AATCGTGGCT CTACGAACAG GAACGTGATA GTAAGGCGTA TATAGCGGAT AAGGAGGCTT     11340

     CAAACTCTAA AGTCCAAAAA GGTAGTCGTA ACCTATATGT GTAAATCACG AGAGTAATTG     11400

     AATTCGGACT AAGGTTTGTG TGAAAAGAT AAATCTTTCT AGAGTCTAAA GACTCTGCGT     11460

     CAGATTTCCT ATTTTCACTG TAACCTTTTA ACGTCCTCAT ATCTTGTATA AACGAGGAAA     11520

     GATGTACGAC TTATCCCGTG AGGTTTCATG AGCGCTGAAA GCGTAGTAAC AACGAATCAT     11580

     GAGAAGTCAG CCGAGCCCAT AGTAGTGAGG AAACTTCCGT AATGGAAGTG GAGCGAAGGG     11640
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1101

GTGAATACTC AAACAGTCTG GGGAGAGACT GTTTGAGGTC TGTCGCTAGA AAGAGAAAAC       11700

GACAGATCGA AGTAATCCTA CTTCACTTGT GTCTGTAAAA TGAGTGGTCT GATAGAACTG       11760

GACTTTGAGG                                                             11770

(2) INFORMATION FOR SEQ ID NO: 173:

    (i) SEQUENCE CHARACTERISTICS:
       (A) LENGTH: 4185 base pairs
       (B) TYPE: nucleic acid
       (C) STRANDEDNESS: double
       (D) TOPOLOGY: linear


    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 173:

CGCGAAACTA CTTTCTTAGT ATAACACTTT CAGAATCATT GTCAATAGAA ATGACTTGAT          60

TTTTTCAATT TTTTCAAGCT ATTTCCAAGG GTTGTAAAAT CGTCCCTGAT TCTGCAAGAT         120

AAGTAGTAAA CTAACTACTA AAAACAAGGT TGCCAAGAGC AAGGTAAATAT AGTCTCCTTT         180

TTTCAAGGCC TGATAACTAT ACCATGTGCG TTTTTTCTCT TTCCCAAAGC GGCGAACTCC         240

ATGGCAGTCG CAATGGTATC AATGCGTTCT AGCGAGCTAA AAATCAAGGG CGTAATAATG         300

AGCAGATTGC CTTTGATTCG TTGCATAAGA GAAGCTTTCT TGGATAATTC CATCCCACGC         360

GCCTCCTGAG ACATCTTGAT AGTAAAGAAT TCTTCCTGCA AATCTGGAAT ATAGCGCAAG         420

GTCAGGCTGA CAGAATAAGC AATCTTATAG GGCACACCAA TTTGATTTAA ACTGGAAGCA         480

AACTGACTAG GATGGGTTGT CATCAAAAAG ATAATAGCCA GAGGAATGGT GCAAAGATAC         540

TTAATGGCCA AATTTAGCAG ATAAAAGAGC TCCTGGCTGG TTAGAGTGTA GACACCGATT         600

CCCTGCCAAA TCACACTTCT CTCTCCATAA AGTCCAACCC CATACTCGGG AGAAAAGAGA         660

TAGACCATCA AAACGTTTAA AACGGCAAAT ATCGTCGCAA AAACGGCTAC AAAGGAAACA         720

TCTTTAAAGC GAATTTCTGA TAAATAGAGG AGAAAGACTG AAAAGATGGC AATCAGCAAG         780

AGCATTCTGG TATCATAGCT AATCATGGCC GCCAATGATA CCAGAATGAA AAAGAGAAGT         840

TTCCCAGCTC CTGACAAGCG ATGAATCACA GTATCTCTAT GCTGGTAACC GATTAATTTA         900

GCTTGCATCC CTCTCTCCTT TCTTTGTAAA ATGCCGTTAA ATCCAGTGGA TCCACATCTA         960

GTTTCTTAGC CAAGTTAAAG ATGGAGGTTT CTTTTAGATT GGCTTTTACT AACAGCTCAG        1020

GATCGCTCAA CAGACTGGCT GGAACAGTAT CGGCAATCAA TTCTCCATCC ACCATGACAA        1080

GGACCCGGTC TGAATAATCC AGCATCAATT GCATATCATG GGTAATCATG ACAATGGTAT        1140

GCCCTTTTTG ATGTAACTCT TCGAGAAATT CCATAATCTC AGTATAGTTC TTCTGATCTT        1200

1102

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GACCTGCAGT CGGTTCATCT AGGAGAATAA TTTCAGCTCC TAAGACCAAA ATTGAAGCAA    1260

TGGTGACACG TTTTTTCTGA CCAAATGACA GGGCAGAAAT AGGCCAATTA CGGAATTCAT    1320

AAAGTCCACA GATTTTCAAG GTTTCATATA CTCTCGTTTC AATTTCCTTC TCATCCACAC    1380

CTCGCAAACG GAGCCCTAGA GCCACCTCAT CAAAAATCAT ATTGGTTGAA ATCATTTGAT    1440

TAGGATTTTG TAGCACATAT CCTACTCGTT CCGCCCGCTC TGCAACAGAA TCGCCTTTTA    1500

TATCCTGTTT TTCCCAAAGA TAGCGTCCTT CCGTCTGAAT AAAGCTACTT ATAGCCTTGG    1560

CTAGAGTTGA TTTCCCTGCT CCATTTTTTC CGACAATAGC AATCTTTTCA CCCTTTTTAA    1620

TATCTAAATG TAGGGATTTT AAAATCGGTC TATCATCATA AGAAAAAGAT ACTTCCTCTA    1680

GTCTAAAGAG TGACTGCAAT GCTGGGGTTT CTTTTGCCAG TTCATTCTGC AACTGAACCT    1740

GACCTTTTGA GATAGACAAG TTATCCAGAT TCGCTAATTG TTCTTCCTTG ACTAAGTCCA    1800

CACCTAATTG ACGGAGAGTC GTTAGATAAA GGGGTTCTCG AATTCCATTT TGAGTCAATA    1860

AATCAGTCGC AAGCAACTGG TCAGGGCTCC CATTAAAAAG GATACGACCA TCGTTTATCA    1920

AGACAATCCG ATCCACAGGG CGATGCAGAA CGTCCTCCAA ACGGTGCTCG ATAATAAGAG    1980

TCGTCGTCCC CTCTTCCTTA TGAATCTGGT CAATCAATTC GATAATATCC TGACCTGACT    2040

TGGGATCTAG ATTGGCGAGT GGCTCATCAA ACAAGAGAAT CGGACTTTCA TCAATCAAGA    2100

CACCAGCCAG ACTGACTCGC TGCTTTTGTC CACCTGACAA ATCCTGAGGA CGCTGATCCA    2160

GTAAAGGAAG AAGGTCCAGC TTTTCAGCCC ATTTATAAAC ACGACCTTTC ATCTCATCTA    2220

GGGCTGTCAC ATCATTTTCC AGAGCAAACG CCAAATCTTC TGCCACAGAC AAGCCAATAA    2280

ACTGCCCATC TGTATCCTGC AAAACTGTGC TAACCAGATG AGACTTATCA TAGATGCTCA    2340

TATCAAAGGC TACTTGACCC TTTATCAAAA ATTCTCCATA TGTCTGACCC TTGTAAATAT    2400

TGGGAATAAT CCCATTCAAA CACTGACCCA AGGTAGATTT ACCTGACCCA GATGGTCCAA    2460

CAATTAAGAC TTTCTCTCCC TTGTAAATGG TCAAGTCTAT CCCTTGCAAG GTCGGTTCTT    2520

GTTGTGTTTC ATACCGGAAA GAGAAATCCT TCCACTCAAT TaTAGCTTCT TTCATCTTAC    2580

TCTCTTCATT CGCTTCTTAG ACTTCTATTT TATCATAAAT CAAGCCCTTC TTGCAGTCTC    2640

TCCTCTTAAA ATCTTAGCGC CAAAAAGATT CCTATCCTAG CTTACTTGCC TAACTAATCT    2700

ATAAACATCG AAAAAGACTA GTTGCCCAGC CTTCCCCATC ATTTTATACT CTTCGAAAAT    2760

CTCTTCAAAC CACGTCAGcT TCGCCTTGCC GTAGGTATGG TTACTGACTt CGTCAGTTTC    2820

ATCTACAACC TCAAAACCAT GTTTTGAGCc TGCTTCGTCA GTTCTATCCA CAATCTCAAA    2880

ACACTGTTTT GAGCAACtGC GGCTAGCTTC CTAGTTTGCT CTTTGATTTT CATTGAGTAT    2940

TAGTCCTTTT TCAAACTTCC TGCACGAGTT TGGGTTCCTG CATAGGCAAG TAAGAGAAGA    3000
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1103

GTTCCTGCAA TAGCTACAGA TACACCATTG GCAATTCCCG CAACAATCCC TTGTGCAAAT          3060

ACTTTTTCTG CCGCTTCTTG ATAAATCACA ACATCTCCAA GTGGTGCCAA GACACCCCAA          3120

ACAAGGGCAT TTGCAAGTAG TTGAATGAGA TTAAAAATAA GAATATCTTT CCAGTCAAAA          3180

ACACCATTGA TCACGCGAAC GTACTTTCTA AAAAGTCCCA CAACTAAACC AAAGAGTCCG          3240

CTAGCGATAA TCCAAGTCCA CCATAGACCA TAACCAACAA GAGAGTCCTT GATTGCATGA          3300

CCAATCAACC CGACAAGCAA ACCGATAATC GGTCCAAAAA TAATAGAAAG TAGCGCTTGT          3360

ACCGCATACT GAAGCTGGAT GCTTGTATTT GGAACAGGGG TTGGAATGTT GATCATCCCG          3420

ATGACGACAA AGAGGGCAGC GCCAATTCCG ACAGCAACAA CTTGTTTAAT TGTAAATTTG          3480

ATTTCCATAC TATTCTCCTA TTTTATCCTT CTATTTTCTT TATTTCAATG GTCCAAGATG          3540

AACCGACACC TACATTATAG GCCTTGGCAA AGGAACCTTG GTTGATAGCC AAACCTAAAC          3600

GATAGAGAGA GTTGATGTAA AGGATGGGTT GCCCAATTCT CACATCTGCA AATGATTTGC          3660

CATAGACAAC CTGATTTTGA TAGACCAGCA TATCAGCATG ATAGATGGTC ACTTCAAAAC          3720

GATCACCAAA TTCTGGTTCC AGCTTGTAAA ATTCTTCCCG TGTGATAGAG GTCCAAAGCG          3780

AACCGAAACG CACATCCAGA ATATCAATGG CTCCCTTCAC CAGATGATCT TCTATGATGG          3840

TCGCTACGAC TGGAAGCTCT ACAATCTGTT CCACACTGAG CTCTGGCCCT ACTTCCTCAA          3900

AAGTAATGTG ACCACTGGCC AGTTTAGCAC CAGTATAGGC ATAGACATCA CGACCGTGGA          3960

AGGTATAAGA ATGCTCTGTG TTTTGACGCC TATTGGCCAC CTCAGAAATC TCACGAATGG          4020

CTACAATGCC AACGTGTTTC TTGATAAAGG AAAGCGTCCC ATTATCTGGC GTGACAATGT          4080

ATTGATTTTT TGCAGTCTTG GCAACTACAC TCTTACGTTT CGAACCGACA CCTGGATCGA          4140

CAACCGATAC AAACGTCGTT CCCTCAGGCC AGTAATCCAC CGTCT                         4185

(2) INFORMATION FOR SEQ ID NO: 174:

          (i) SEQUENCE CHARACTERISTICS:
              (A) LENGTH: 2069 base pairs
              (B) TYPE: nucleic acid
              (C) STRANDEDNESS: double
              (D) TOPOLOGY: linear


          (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 174:

TGATAGAGTT AAAGCCGCTG AGTCATTCAA TCCATCTCCA ACCATCAAAA TAGTGTGACC          60

TGCTTTCTGC AGTTTCTCTA CTAACTCAAA TTTCCCATCA GGTTTCAAGT CTGTATAGAC         120

CTGATCAAAG GGCAAATCTT TGACTAATTC CTCTGTCCTA ATCAAGGTGT CTCCTGTTGC         180

1104

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CAGAATCAAT TTTTyCCCCT GTGCCTTAAG TTTATCCAAG GCTGTTTTTG CTTCTTTTCT     240

CAAAGGAGTA TGAATGCAGA ACATTCCAAT CAATTCATTT TGATAAGCCA AGAATAAGAG     300

ATTGTAGTGA CTCTTGTACT CTTCAATTAA AGCATTTTGT TCTGAACTGA TATGAATCTG     360

CTCATCCTGC ATCAAGACAT AATTCCCAAT AAGAACTGGT TGGCCATCTA TATGAGATTT     420

GATCCCCTTG CTTGCGATAT ATTGGAGTTT CCCATGCATT TCCTCATGTT CAATTCCCTC     480

TATCTCAGCT TGCTTGACGA TGGCATTAGC AATAGGATGA TAAATGTGTT CCTCAAGACA     540

GGCACTGATT CTGAGAATAT CTTCCTCACT ATAGTCTCCA AAAGGTAACA CCTTTTCAAC     600

TATAGGATAA CTAGTTGTGA TTGTTCCTGT CTTATCAAAC AAGAAAGTAT CAACTTCCAG     660

ATATTTCTCC AGAACATCTC CATCCTTAAT CACCATTTCA CGGTTCAACC CTTCCTTGAT     720

AACTGTCAAA TAAGCTACAG GAGTAGAGAT TTTCAAAGCG CAGGAGAAAT CGACCAATAG     780

GAAAGAAATA GCCTTAGAAA AAGAACCTGT CAATAGGTAA GTCAGCCCAG CCCCCAAGAA     840

ATTATATTTG ACGACTTTAT CCGCCATCTT GATGAAATAG CGTTGTTTCG TTTTCTTGTT     900

TTCTTCAGAT TTCTTCATCA ACTCAATCAG CTGTAAAATA CGGCTGTTCA TCTGATTATC     960

TGTTACACGA ATGCGTAACT CTCCAGTTTC TAATACTGTA TTTGCACAAA CCAAATCAGA    1020

CTCTCTTTTT TCAACTGGAA AACTCTCTCC TGTCAAGGAA CTTTCGTTGA CCATACCTAA    1080

ACCTGAAACT ACTTGTCCAT CAAACAGAAT TTCATTTCCT TGAGATAAGA TCAAGACATC    1140

TCCTATTTGA ACATCGGAAC TCTTGATACT AACAACCGTA TCGCCCTGTA CTAGGAATAC    1200

ATCGCTCTCT TTTGCAAGAA GACTCTGTTC TAAATCTGTT GCAGTTTTTT TCAAGGACCA    1260

CTGATCTAAA TGATTCCCCA AATCAAGCAT AAACATGATA TTGCTAGCTG TCTTGGATTG    1320

GTTCATAAAC AAAGACAATA AAATAGCCGA ACAGTCCAAG ACTTCCATCG TTAGTyCCTT    1380

ACGCGCTAGT GTTTGATAGG CTTCTCTAAT ATAACCCAAA GCCTGATAAC AAGTCCATAT    1440

ATAGCGAATA GGATACGGCA CAAAACTACG AAAAAGTACA CGCTTAACCG CTGCACCTGA    1500

AACAATAGAA TAAGCACTCT CTTCTCTACG AATGGGAAGA GTCATCAACT CAGAAACTTT    1560

CCCTTTATCA ATTCTTTTTA AAAAGGCTTC TGCATTATCT AATACAGAAA AGCCTTCTTT    1620

TATGCGTAGA GTAAAGTGCT GTTGATCCAT GTAAAACTGG ATAGACTCAA TCCCCTTTTC    1680

ATCTCTCGCC AAGGAACGAA GATAGTCTTG AATATCCAAG GTAAGTGAAA AAGAAGATGA    1740

TAGTCGGATA TGTTGGTATC CTCTATGTAG CACTTTAAAA GACATATTAT TCACCTATAA    1800

GGCTATCTAA TTGCTCTTCT TTTTTCTCTT GCTCGTACAA ATATTTGGCA TCTTGCAAGA    1860

CATCGTCTCC ATGTTGCTTC ACAACAGAAA CAGATGCATC TAGCTCGTCT TTCAACTTGT    1920

AAGCCTTAGC CAAAGCTTTA GAATAACCTT TTTTAGCTTC CTTACTTGCT AAGATTTTCA    1980
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1105

AACCAAGGGT ACCAAATGCG ACACCACCCA AAAATAATGA AGATTTTTTC GCAACTTTTG          2040

CAACGGTTAA TACTTCTTTT AACATAGGG                                           2069

(2) INFORMATION FOR SEQ ID NO: 175:

    (i) SEQUENCE CHARACTERISTICS:
       (A) LENGTH: 4597 base pairs
       (B) TYPE: nucleic acid
       (C) STRANDEDNESS: double
       (D) TOPOLOGY: linear


    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 175:

AAATCTTGCG CAATAAAGCT CATCTCCATC TCCCGATTGA AACAGTCACT CCCCGGACTG            60

TTTCAACGTC CCAAGACATA ATCTTAGGCA GATTTCTAAA ATTACACTCA AAGTGGAAGT           120

CATTGAGCTT TCGAATGACA GTTGAAGTTG AAATGGCCAG CTGATGGGCA ATATCGGTCA           180

TAGAAATCTT TTCAATTAAC TTTTGCGCAA TCTTTTGGTT GATAATACGA GGAATTTGGT           240

GATTTTTCTT GACGATAGAA GTTTCAGCGA CCATCATTTT CAAGCAATGA TAGCACTTAA           300

AACGACGTTT TCTAAGGAGA ATTCTAGTAG GCATACCAGT CGTTTCAAGG TAAGGAATTT           360

TATAGGGTCT TTAATGTCTA GTAATTTTGT GATAAAATGT AATTGTTCCA TATGATTCTT           420

TCTAATGAGT TGTTTTGTCG CTTTTCATTA TAGATCTTAT GGGACTTTTT TTCTACCCAA           480

AATAGGCTCC ATAATATCCA TAGGGAATTT ACCCACTACA AATATTATAG AGCCCAAAGT           540

TTTAGGTCGC TTGATAATAT GCGTTTTTTG AATTTTATAG ACTGCTCGTT TAAACTCTAT           600

TTACTTCGTA CCTTCTGGAG CGAGACGGAA TATTAGTCAC ATACAAAATG AGTACTATTA           660

GGATTTTATT TTCATGTACA ATTTCAGCCA GTCTTGTTAT AATCAGCCTA TAGGAATCAA           720

GGAGGTGACT CTTATGGCTG TTTTTGTGTC TTTGGATGGA ATTGTGGTAG AAGTCCTTGA           780

TGTCTTTTCT TCTTTTAATG GGGATAGTGA GTTTTTCTTG TGTATAGCAT TTTGAATCTG           840

GAATAGGACG CCATGACTGC TAAAAGATTT CTATAAATTA ATTTGATTTT CCTAATCAAT           900

TTGTTCATAT CTTATTTCAT TCCACTATAA ACGTCTTAAA GACAAGAGTC AGTTTGTTAT           960

GGAACGCTCT CAGTTCGAGG AGATGTTCCA ACTTCAAAGT AGTCGCTTGA CGACGCAAGA          1020

AAAATTACAA TTGTTTACCT CTGTGTTTGC TGGCCGTTAT GATGTTTATG CTAAGAATTT          1080

TATCAATGAA CAAGGGAAAA TTCAGTATTT TCCTTCCTAT GATTATGGTT GGAAGCAGTT          1140

GCCACCTGAA AAACGGAGTT TCCAGACATT GACGAACTCC GTTTTGAAAT CTCATTTTCG          1200

TGGGGAGGCA GCTATCGGTA TCTTTCCTAT GCACTTAGAT GATAGCTGTT ATTTTTTGGT          1260

1106

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ACTGGATTTG GATGAAGGAG ATTGGAAAGA AGCTGGTTTA ACCATTCGAA GAATAGCCAG      1320

GGAACGCCAG ATGGAAGCCC ATTTAGAGAT TTCTCGTTCG GGTCACGGAC TCCATATTTG      1380

GTTCTTCTTT GAGGAAGCGA TTCCGAGTCG AGAGGCTCGC TTGTTTGGAA AGAAACTGAT      1440

AGAACTGGCA ATGCAGGAAA GTATGCAACT GTCCTTTGAT TCTTTTGATC GCATGTTTCC      1500

AAATCAGGAT GTCCTTCCTA AGGGGGGATT TGGAAATTTG ATTGCCTTGC CTTTTCAAGG      1560

AGAAGCTTAC CATCAAGGGC GAACGGTCTT TGTGGATGAA CAGTTTCAGC CTTATGAAGA      1620

CCAATGGAGG TATCTACAAG AAATTCAGAG GATTTCAACT GCTAAAGTGG CACTGTTAAT      1680

CCAAGAGGAG TTAGGCAAGC AAGAATTGGA TAAGGAGTTG AAGGTCGTTT TATCCAATAT      1740

GATCCAACTT GAAAAATCGT CTGTGACATC CAAGGCACTT TTTTCTTGAA AAATATGGCT      1800

TCCTTTTCTA ATCCCGAATT TTATAGTAGA TTGAAACTAG AATAGTACAC CTCTGCTTCT      1860

AAAACATTGT TAGAAATCGA TTTGACTTTC CTGATCGATT TGTCCTGTTA TTATTTCATT      1920

TTACTATATT TAAAGCAGGC TATGCGACAG CCAACCTATC AAATTCCTGA GAGAATGTAT      1980

TTATTTGGAG AATCCGATCA TTATTTATGG TTGCCAAGAG GTTTGCTGTA TCCATTGCAA      2040

GATAAATTTA AGCAGGTATC TGTGGAAGAT AGGAGAAAGG TACAAAGGTC TATTAGCGTG      2100

GAATTTAAGG GAGAACTCAC TTTTGAGCAA GAGTTAGCCC TGTCAGATAT GACTTCTAAA      2160

GAAAATGGTT TACTTCATGC GGAGACTGGT TTTGGGAAGA CCGTTTTAGG TGCTGCTCTT      2220

ATCTCTGAAC GGAAAACAAA AACAATTATT CTAGTCCATA ATAAGCAACT CTTAGACCAA      2280

TGGCTAGATC GCTTAAACTG CTTTTTGACT TTCGAAGAGG AGGAGGCTAT CCGTTATACG      2340

GCATCAGGTC GTGAAAAGGT AATCGGCTAT GTTGGGCAGT ACGGTGGGAC TAAGAAATGG      2400

CTGAGTAAAC TGGTTGATGT CGTTATGATT CAATCTCTAT TTAAGTTGGA AAATAGTCAA      2460

AGTCTTTTGG ATGAGTATGA GATGATGATT GTGGATGAGT GTCATCATGT CTCTGCCTTG      2520

ATGTTTGAAA AAGTTGTTGC TCAGTTTAGA GGGAAGTATC TTTACGGTTT GACGGCTACG      2580

CCTGAGCGTA AGAATGGTCA TGAGCCTATT GTTTTTCAGA GAATTGGTGA GATACTCCAT      2640

ACTGCTGATA AGAGGGAAAC GGATTTTAAA CGGCAATTGC AATTAAGATT CACTTCTTTT      2700

GGTCATTTGG AAATTGAAAA GACCAAAGCA AGTAATTTTA TACAGCTTAG TGATTGGATT      2760

GCTACTGACT CAGTGAGGAA TCAGATGATT CTCAAGGATA TTCTAGCCCA AGTGGCAGAA      2820

GGACGGAATA TCTTGGTTTT AGTTAATCGA ATTCAACAGA TAGATGTCTT TGAAAAATTA      2880

TTGAAAGAGA AAGAGGTTGA TGACTGTTAC ATTATTAGCG GAAAAACCAA AGTCCGAGAG      2940

AGAACGAGTT TACTGGAGAC GTTAGAACAG TTAGATAAAG GGTTTGTTTT GTTGTCTACT      3000

GGAAAATACA TTGGCGAAGG TTTTGACTTA CCTCAGTTGG ACACGCTTAT CTTGGCAGCA      3060
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1107

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CCCTTTTCTT GGAAAAATAA TTTGATTCAG TATGCAGGTC GGATTCATAG AAACTACAAG      3120

GATAAGTCTT TGGTGCGTAT TTTCGATTAT GTGGATATTC ATGTTCCTTA TTTAGAAAAG      3180

ATGTTTCAGA AACGACAAGT AGCTTATCGA AAGATGGATT ATCGTGTCAT CGAGGGTGAG      3240

GAGAAACAAT TCGTTTATGT TGATAGTAGA TATGAGAAGG TGTTGAGAGA GGACTTAGCA      3300

GGGGAAAGAC AGGAATGTCT GCTTATTTTA CCTTATGTGC ACCAGACAAA ACTGATGAAT      3360

TTTCTAAAAG AATTTAGGAT TAGTCAAATT GAGATATGTA TACCAGAGAC GGTTGCAAAT      3420

AAAGCATGGC TAGACCAGTT GAAGAGCCAG AAAATTAAAG TGTCTTTTAC TCAATCAAAA      3480

ATAGTAACGC CTATTCTTTT GGTGAATAAG ACTATTGTTT GGTATGGTGC AATGCCATTA      3540

TTAGGGAAGG TAGATGAGAT GACCATATTA CGTTTGGAAT CAGCTAGTAT AGTTTCTGAA      3600

CTAGTGGCAG GTTTACGATA GAGAAAATTT TTAAAAATTT CTATGTATGA TTTTCATTTC      3660

TTTAGTGAGA CTGTTGCCAT TATCACATTC GAATCACACA AAATAAAAAA ATTTTTATAA      3720

GTACTTGACA AATAGATTGA AATATCATAA AATAAAAACG GTTACAGAGT TATTAATTAT      3780

TTAAGCTTCA TGTCACCATT AAAAATTGAA ATAAAAGGAT GTTATCACTA ATACAAGTGA      3840

GCAGGAACCT ATTTAATCAC ATCAGAAGAA GTTTCTTGAT GTTTTTAAGT AGGTTCCTTT      3900

TATTTTAAAA GGGAAATTTT ATGATCATAA AACGAATACT AAACCACAAT GCCGTAATTG      3960

CGCAAAGTAA AAAAGATATC GATATTCTTC TTTTTGGAAG GGGAATAGCT TTTGGAAGAA      4020

AAACTGGAGA TAAAGTAAAT CCAATTGATA TTGAGAAAAG TTTTTTTCTC AAAAATAGAG      4080

ATAATATGAC CCGTTTTACA GAGATGTTTA TTAACGTTCC TTTGGAGTTG GTGTACATCA      4140

CCGAAAAAAT AATTAACCTA GGTAAAATAA CATTGGGTAA TAATTTTGAT GAAATTATCT      4200

ATATTAATTT AACGGATCAT ATTTCTTCGA GCATAGAACG TTATAAAGAA GGGATTATTA      4260

TTTCGAATCC CCTACGCTGG GAAATATCGA AATATTATAA AGAAGAATTT GAACTTGGGA      4320

AAAGGGCTTT ACAAATAATA AAAAAAGAGT TAGGTATTGA ACTTCCAATT GACGAAGCTG      4380

CATTCATAGC GCTACATTTT GTTAATGCTA ATTTAGAAAA TAATTTTCAA GAGTCGTATA      4440

AAATCACTGA AATAATTATG GGAATTGAGA AAATCATTCA AGATTTCTAT TGTACTGAGT      4500

TTAACCAAGA TTCTATTGAT TATTATAGAT TCATAACTCA TATGAAATTA TTTGCCCATC      4560

GCTTGGTTGA GAATACAACT TATTGTGACG ATGATGA                              4597
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(2) INFORMATION FOR SEQ ID NO: 176:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 3984 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double

1108

(D) TOPOLOGY: linear


(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 176:

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CGGCTTATTT ACTACTTGTT CCATCATATA TGGAATATGC ATGAAACCTG CTCTCATATT      60

AGGGAATTTT TTATCCACTA AATAAAGAGC TTGGTACATC AAATGATTGC AAACAAAGGT     120

TCCTGCACTA TTGGATACAA CTGCCGGAAG TCCCTGTTTT TTGATAGCTT GTACCATCGC     180

TTTGATAGGT AAACTACTAA AATAGGCCGA TGCTCCATCA ATACGAATCG GTGTATCAAT     240

TGGTTGATTG CCTTCGTTAT CAGGTATGCG AGCATCATCT TGATTAATAG CCACTCGTTC     300

AGGTGTTAAG CCGGTCCTGC CGCCTGCTTG TCCAATACAA AGTACAGCAT CTGGTTGATA     360

TCGTAATATT TCTGCCTCTA AAACTTCTGA CGACTTATAA AAAACCGTTG GAATTTCTAC     420

CCAGCGAACT TCAGCCCCAT TAATCTCAGA TGGTAATAAT TTTACAGCCT CCAAAGCTGG     480

ATTAATCTTT TCACCTCCAA AAGGATTAAA ACCTGTAACC AATATTTTCA TTTTATTTTC     540

CTTTACTAAA ATGCGAGAAA GTACATTAAG AATATGTGAA TAACAATCAT TACTAGAGCA     600

ACACCTGCTT GAGCCTTTAT AACGCCATTC TGATCTTTCA TATCCATCAA TGCTGCTGGT     660

AGAGCGTTAA AATTAGCAGC CATTGGGGTC AATAAGGTCC CACAATAACC TGCTGTCATG     720

GCAAGAGCAC CAGCCACAAT TGGATTAGCT CCCAGAGCAA ATACAAAGGG AACTCCAACA     780

CCTGCTGTAA TAACGGTGAA TGCTGCAAAA GCATTTCCCA TAATCATTGT GAATAGAACC     840

ATTCCAAGAA CATAGGCCAA AACTCCTATA AAGCGACTAT CTGAAGGAAC AATACCGCTA     900

ATCAGATGAG AGATAACATC ACCAACACCT GCTACAGTAA AAATAGCCCC CAAAGCCCCT     960

AATAATTGAG GAACAATCCC ACTTGTTGAA ACTTGCTGAG TCATTCGATT ATTTTCTGAT    1020

AACAGACTCT TAGGGTGACT ATTGGTAATC ACAAGAACAG AAATTGTAGC AAACAAGGCG    1080

GCAAGGCTAA TCGAAATCTT GCTAAATTCT GGAATCATTT GCGCTAAGAC CAACGCAAGT    1140

ATTGCCATCA GCATAACTGG AATAAAAATT TTATTTTTCA ACCTGTTAGA TTCAATATTG    1200

GCTTTCATTT CATCTAAGGA TGGCAAGGTT CCGATACGGA CTTGCTTAAA CAATGTTAAC    1260

AGCGATAATA GGATTACAAT AATACCAATA CTCATATTTG GCATATAGGA ACCACCTATA    1320

AACGTAATAG ACAATAGAGT CCAAAATGCA GATGTCCCAA GTCGAACTGG GTTTGTTTTA    1380

TCTTTATAAC TACAATAGGC TGTATGGAGA AATTGACAAC CAATCACAAT ATAGGTCAAC    1440

TCTAATAGTT GCTTTGCCAA CTCTGTCATT TTTGTTCTCC TCCCCTAGTC TTTTTTGATA    1500

TCAATTTTTT ATCAAATAAA TAATTATAAA TCCCCACTAC AATAAGTGTT ATAACAGCAA    1560

CAATAATAGA TGTAGAAGCA ATCCCTGCAT AATTGCTTTC ATAGCCTAAC TGATCTAATG    1620
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1109

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TTCCCCCTAT CAAGAGGACT CCCCCAGCAC CTACAAACGT ATTTTGAGCA AAGAAATTTC      1680

CAAAATTTTC ATTCGCAGCC GCACGCGCTT TTATTGTCTC ATCTTCAACC TCTGTTAACT      1740

TTCTACCTAA TTGAGACTCT GCAGCTGCTT CTCCCATAGG TTGAACCAAA GGTCTGACAA      1800

ACTGAGGGTG TCCTCCTAGA CGAATTGAAA AGAAACCAGC TAACTCTCGA ATAAAGAAAT      1860

AAACTGTATA GAAGTTTCCA ACTGTCAGAC CTTTAATCTT TCGAATCAAA TCGATTGATC      1920

GTTGCTTGAG TCCAAAGGTT TCTGACAGCC CCACAAGAGG CAAGGTAACC ATAAAAATCG      1980

TGAGCACTCG CTGATTGCTA AATTCTTTTC CCAAAATCTC CAAAAATTCA ACGAGAGAAA      2040

CACCTGAAAC TAAAGCTGTA ACCAAACCAG CTAAGACTAC TGTTGCAATT GTATCAAATT      2100

TTAAAATAAA ACCCACAACA ATGATTGCTA TTCCTATTAA TCTAATCCAC TCCATATCAA      2160

ACTCCTTTAT ATTCAAAATG ACAGTATTTT TAAAATTTTA TCAAGATCAA TACCATTCCT      2220

TATTTAATGT GTTTTTCTAG TTCTTTTTGG TATTTGCTAT TGGATTCCAA TTTTTCTTTT      2280

TGCCATTTTT TAAAAACCTC GTTATATTCT TTTGTTGTAA CAATATCTTT TTGCAATTTC      2340

ATTCCTTTAA AGATATATGG ATCCCCCTTA ATACCAACTT GTGAGTATGG TTTTGAGAAT      2400

GGTACTACGT TACTTACAAC TGGAGAACCA CCAGATGAAG CTGTTGGCAT CAATAATGAA      2460

CTATCTGTCG ACCAAGCTTG AGCTTTGGCA TATTTTTCAT ATCTTTTCTC TAGGTCAGTG      2520

GTCTCAGAAA CAGCATCTTC TAACAATTTC TTATATTTAT CCAAACCAGG TTTAGCTACA      2580

ACATCCTTAT CTTTTCCTTT CGTAATACCA AGGTGTTTCA TGGCAGAACC AGATTTTGGA      2640

TCTATAATAT TCAAGTGAGA CGCTGGATCT TGATAGCTTG GAGCCCATCC TGTACTGTTC      2700

AAATCATAGT CTTTTTGAGA AGGAGCAACA TTGCCGTATT TATCATTTTC CATCAAACCA      2760

TCAATAACAT TTCCAATAAC GTCTGTCCTC GATGTTCGAG TCGCTATACT GTAGCCCAAT      2820

GATGCTGGAT CTACTGCATA GACATAAGAA AATGTTGTCG GTGCATCTGC TTCTTTATCA      2880

GTTTTTCCAC AAGCCACTAA AATAGCTGAC GTGCTCAGGA CCACTCCTGC TGTTAAGAGC      2940

CACTTTTTCT ATTTCATAAA GAATCTCCTT TGGTTTATTT TAATCTACTT TTACAATCCA      3000

ACCTTCTGGC GCTTCAATAT CGCCAAACTG AATACCCGTC AATTCATTAT ATAATTTACG      3060

CGTCACAGGA CCTACTTCTG TTTCACTATA GAATACATGG AAATCATCAC CATGTTGAAT      3120

ACCTCCAATT GGAGAAATAA CCGCTGCTGT ACCACAGGCA CCTGCCTCTA CAAAACGGTC      3180

AAGATTATCA ATTGGAACAT CACCCTCAAT AGGAGTTAAT CCCAAGCGAT GTTCTGCCAA      3240

ATAAAGCAAG GAATACTTGG TAATAGATGG CAAGATAGAT GGACTCAATG GTGTTACAAA      3300

TTCATTATCA GCTGTAATTC CAAAGAAGTT AGCTGATCCG ACTTCTTCAA TCTTTGTATG      3360
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                                           1110
AGTTGATGGG TCCAGATAGA TAACATCTGA GAAATGACGT GACTTGGCCA TTTTTCCTGG        3420

TAAGAGACTT GCAGCATAGT TTCCACCAAC CTTAGCCGCA CCTGTACCAT TTGGTGCTGC        3480

ACGGTCGTAC TCATCCTGAA TCAAGAAGTT GGTTGGGACC AAACCACCTT TAAAGTAATT        3540

TCCAACTGGC ATAGCAAAGA TGGTGAAAAT GTACTCTTCT GCCGGTTTTA CCCCGATAAT        3600

ATCTCCGACA CCAATCAAAA GAGGGCGAAG ATATAAGGTT CCACCTGTTC CGTATGGTGG        3660

TACGTATTCT TCATTCGCAC GGACAACTGC TTTACAAGCT TCTACAAACA TGTCTGTCGG        3720

AACTTGTGGC ATCAAGAGAC GGTCACATGT ACGTTGCAGA CGTTTAGCAT TTTCATCAGG        3780

ACGGAACAGT TGAACACTGC CATCCTTAGT ACGATAAGCT TTCAAACCTT CAAATGCTTG        3840

TTGTCCATAG TGAAGACTTG GAGAAGACTC TGAAATATGC AAAGTTGCAT CCTCTGTAAG        3900

CTCTCCTTGA TCCCATTGTC CATTTTTGAA ATGAGCAAGA TAGCGATAAG GTAATTTCAT        3960

ATAGGAAAAA CCGAGGTTTT CCGG                                               3984

(2) INFORMATION FOR SEQ ID NO: 177:

        (i) SEQUENCE CHARACTERISTICS:
            (A) LENGTH: 8703 base pairs
            (B) TYPE: nucleic acid
            (C) STRANDEDNESS: double
            (D) TOPOLOGY: linear


        (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 177:

TATCTAATTA TTGGTTTTTA TCGCTGACCT TGGCTATTGT TGGGGTTGTT TTACCCTTGT          60

TGCCTACAAC ACCTTTCCTT TTGTTGTCTA TTGCTTGTTT CTCCAGAAGT TCCAAGCGAT         120

TCGAAGATTG GCTTTATCAT ACCAAGCTCT ATCAAGCATA TGTAGCTGAT TTTCGTGAGA         180

CCAAGTCTAT TGCGCGTGAA CGAAAGAAAA AAATCATCGT CTCTATCTAC GTCTTGATGG         240

GAATTTCTAT TTATTTTGCA CCTCTTTTAC CAGTCAAAAT CGGTCTGGGT GCTTTGACCA         300

TCTTTATTAC TTATTATCTC TTCAAGGTCA TTCCAGACAA AGAATAGTTA AAACAGTAGT         360

TATTTGCCTT GATAAAATTG AAAGCATATT CATAACAATA TGATATAATA AAATTGAAGT         420

AATATTCAAG GAGAATCAAA TGATTTACGA ATTTTGTGCT GAAAATGTGA CTTTACTTGA         480

AAAAGCGATG CAGGCTGGAG CTCGTCGGAT TGAACTCTGT GATAATCTAG CAGTTGGTGG         540

GACAACACCC AGCTATGGAG TGACTAAGGC AGCGGTTGAA CTGGCAGCTA ACTACGATAC         600

AACCATCATG ACCATGATTC GGCCACGTGG TGGTGACTTT GTCTATAATG ACCTAGAAAT         660

TGCTATCATG CTAGAAGACA TTCGTTTGAC TGCTCAGGCT GGAAGTCAAG GGGTTGTATT         720

TGGAGCTTTA ACTGCTGATA AAAAGTTGGA TAAGCCTAAT CTGGAAAAGT TAATTGCTGC         780

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ATCAAAAGGA ATGGAAATTG TCTTTCACAT GGCCTTTGAT GAACTAAGTG ATGAAGATCA      840

AGCGGAAGCT ATTGACTGGC TCAGTCAAGC CGGTGTCACT CGTATCCTAA CTCGTGCTGG      900

TGTGTCTGGC GACTCCTTAG AAAAACGTTT TGTTCACTAT CACAGAATTT TGGAGTACGC      960

TAAAGGTAAA ATTGAAATTC TACCAGGTGG GGGGATTGAC CTTGAAAACC GTCAAACCTT     1020

TATCGACCAG GTGGGGGTAA CACAATTGCA TGGTACTAAG GTTGTTTTTT AAAAAATAGA     1080

AAGGAACTGC TAGCTTTGGG TAGCAGTTTT CACTTATGTT TGAAATTTTT AAATCCTATC     1140

AATTTAATCA AGAAAAGGCT CATGATTATG GTTTTATAGA AAATAGCGAA GTCTGGACAT     1200

ATAGTTGCCA GATTTTGCAA GGTGACTTTG TCATGACTGT GTCCATCACT GCTGATAATG     1260

TGAACTTTCA AGTCTTTGAC CAAGAGACTG GTGACCTCTA TCCTCACGTT TATATGGAAA     1320

GCATGAGGGG AAGTTTTGTC GGAAATGTCC GTGAGGCTTG TCTGGAGATT CTTTACCAGA     1380

TTCGGAAGGC TTGTTTTGAT GTGCAAGATT TTATCTGTCA TCAGACTAAG CGTATCATGA     1440

CTCAAGTTCA GGAAAAGTAT GGAAACCAGT TGGAGTATCT GTGGGAAAAA TCGCCTGATA     1500

CAGCTGTATT GCGCCATGAA GGCAATCAAA AGTGGTATGC CGTCTTGATG AAAATCTCTT     1560

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AAAAAAGTTG GAACTTAACC TCTAAAAAAT GAAATATTTT AATAATTTTC ATGAACTTTC     1800

AATTAGCTAA ATATTCTTTA CTGAAGAGAT TTTTAGAAAA TATAGGATTT ACCACACTAG     1860

AGGAATATGG TGCCATCTTC AAATACCTGA TTGAGAATGT CAAGACGGAT CGTCAGATCA     1920

TCTATTCGCC TCACTGTCAT GATGACCTCG GAATGGCAGT GGCAAATAGC CTTGCTGCTG     1980

TCAAGAATGG TGCAGGACGT GTTGAAGGGA CTATCAATGG TATTAGGGAG CGAGCTGAAA     2040

ATGCTGCTTT GGAAGAAATT GCAGTGGCTC TCAATATTCG CCAAGATTAC TACCAAGTAG     2100

AAACCAGTAT TGTCCTAAAT GAGACCATCA ATACGTCAGA AATGGTTTCT CGCTTCTCTG     2160

GTATTCCAGT TCCTAAAAAC AAAGCCGTCG TTGGTGGCAA TACCTTCTCC CACGAATCTG     2220

GTATTCACCA AGATGGAGTC CTTAAAAATC CTCTCACTTA TGAGATCATC ACACCTGAAT     2280

TGGTTGGTGT TAAGATTCTG CTTGGAAAAT TATCTGGTCG CCATGCTTTT GTTGAGAAAC     2340

TGAGAGAATT GGCCCTAGAT TTTACAGAAG AGGATATCAA ACCACTCTTT GCTAAGTTCA     2400

AGGCACTGGT CGATAAGAAG CAAGAAATCA CAGATGCAGA TATTCGAGCT TTGGTAGCTG     2460

GAACCATGGT TGAAAATCCA GAAGGCTTCC ACTTTGATGA TTTACAACTT CAAACTCATG     2520
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1112

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CAGATAATGA CATTGAAGCG CTCGTTAGCC TAGCCAATAT GGATGGTGAG AAAGTCGAAT        2580

TTAATGCGAC AGGGCAAGGT TCCGTTGAAG CAATCTTTAA TGCTATCGAT AAGTTCTTTA        2640

ACCAATCTGT TCGTTTGGTG TCCTACACTA TCGATGCGGT AACAGATGGA ATCGATACCC        2700

AGGATCGGGT TTTGGTCACT GTTGAAAACA GAGATACAGA AACCATCTTT AATGCAGCAG        2760

GGCTTGATTT TGATGTGTTG AAGGCTTCTG CTATTGTCTA TATAAACGCT AATACCTTTG        2820

TTCAAAAAGA GAATGCAGGT GAGATGGGAC GCAGTGTTTC TTACCACGAT ATGCCTAGTG        2880

TGTAAAGGAG AAGGCTATGG CAAAGAAAAT AGTAGCTCTA GCAGGAGACG GAATTGGCCC        2940

AGAAATCATG GAGGTTGGTT TAGAAGTTCT GGAGGCTCTA GCTGAAAAAA CAGGTTTTGA        3000

CTATGAGATT GACAGACGAC CGTTCGGAGG TGCAGATATT GATGCAGCAT GACCTCCCTT        3060

ACCTGATGAA ACCCTTAAGG CAAGTAGGGA AGCAGATGCT ATCCTACTAG TAGCTATCGG        3120

TAGTCCTCAG TATGATGGAG CAGTGGTTCG CCCTGAACAA GGCCTGATGG CTCTCCGTAA        3180

GGAACTCAAT CTTTACGCTA ATATTCGTCC TGTAAAAATC TTTGACAGTC TCAAGCATTT        3240

GTCACCACTC AAACTGGAAC GAATTGCTGG TGTAGACTTT GTCGTGGTGC GTGAATTGAC        3300

AGGCGGGATT TACTTTGGAT ATCATATTCT TGAAGAGCGC AATGCGCGTG ATATCAACGA        3360

CTATAGCTAT GAGGAAGTGG AGCGGATTAT TCGCAAAGCC TTTGAAATTG CAAGAAATCG        3420

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GAAAGTAGCT GAGGAAGTCG CACAGGATTT CCCAGATGTA ACCTTGGAAC ATCAGCTGGT        3540

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GGAAATGACG GAAGCTATTA TTGCAAGGTT ATGAAGTTAG ACGAAAAAAT TACTCTAGTC        3960

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AGAAGAGTTT GGCGCATCCC TGAGAAAATC TTACTTATTT TAGCCTTTAC TTTTGGTGGT        4080

TTTGGTGCCT GGCTAGCAGG AATCATCTTT CACCACAAGA CTCGAAAATG GTACTTTAAA        4140

ATAGTTTGGT TTCTTGGGAT GGTGACCACA CTAGTAGCCT TATATTTTAT TTGGAGGTAA        4200

TGGATGGCAG GGTCTTCGAG GGAATACGCT GCTTGGGCTC TAGCGGACTA TGGTTTTAAG        4260

GTCGTGATTG CAGGATCTTT CGGTGACATT CATTACAATA ATGAACTCAA TAATGGCATG        4320
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1113

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TTGCCAATCG TTCAGCCTAG AGAGGTTAGA GAGAAACTAG CCCAGCTAAA ACCAACCGAC      4380

CAGGTAACTG TGGACTTGGA ACAACAAAAA ATCATCTCAC CAGTTGAAGA ATTCACCTTC      4440

GAGATAGATA GCGAGTGGAA ACATAAACTC CTAAATAGTT TGGATGATAT CGGTATTACC      4500

TTGCAGTATG AAGAGTTGAT TGCTGCTTAT GAAAAACAAC GACCAGCCTA CTGGCAGGAT      4560

TAGAAAAAAT AGAAAAGGAG ATATAGTAAA CTGAAATAAG ATGTAAACAA ATGAATTGGA      4620

GCTTAACATC CATTTCCAGC AATTTTTTAG AAACTACAGT GGACTATTCT GGATTCAACA      4680

CATTATAAAA TTATGACAAA ACACATTCAC AAGAAGGCTA CGACATTTTA AAAGGTGAGG      4740

GCGGATGTAT CGTTTGCCCT ACTAAAGTTG GTTACATTAT CATGACCAGT GACAAGGCAG      4800

GACTTGAGCG TAAGTTCGCA GCCAAAGAAC GTAAGCGTAA CAAACCAGGT GTTGTTCTCT      4860

GCGGTAGCAT GGATGAACTT TGCGCTTTAG CGCAACTCAA CCCAGAAATT GAAGCATTCT      4920

ACTAAAAACA TTGGGATGAA GATATTCTTC TTGGTTGTAT CCTTCCTTGG AAACCAGAAG      4980

CCTTTGAAAA ACTCAAAGCA TACGGGGATG GCCGTGAAGA ACTTATTACT GATGTACGTG      5040

GTACTAGCTG TTTTGTTATC AAGTTTGGAA AAGCAGGTGA ACAATTGGCT GCCAAGCTTT      5100

GGGAAGAAGG TAAAATGGTC TACGCCTCAT CTGCTTCAAT GACAAAACGA TTGAAACTCG      5160

CTATGAGCAA GGTGTAATGG TGTCTATGGT CGATAAGGAC GGCAAACTCA TCCCAGAACA      5220

AGGAGGAGCA CGTTCAACTT CACCAGCTCC AGTTGTGATC CGTAAAGGGC TTGACATTGA      5280

TAAAATCATG ATGCACCTGT CAGATACTTT TAACTCATGG GACTACCGTC AGGTTGAGTA      5340

TTATTAGGAT AGAGAAGAAG TCTAGTGTTA TGAGATATTA AAGCTCCTAA CACTGGGCTT      5400

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TAATAAGTAA TGCCAATATT TAAACATCAT TAGTAAAAGG AGTTAGATTG ATGAATAAAA      5520

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ATAAGGCAAC TGTTGGTGAA AAGTTTAATG ATAAAATTAAA AGAAGAGTTT CTCCAGGAAT      5640

GGCCTTTGGA TAGGATTTTA ACAATGTCAA TCGATGAATA TGTAATAGGA AAGGGACAGC      5700

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AAGATCAAGC TAATAATGAG ATTTCAGAGT TGGATCAGCG ATTTTCAAAA TTAAAATCAG      5880

ATTTGTATGA AATTATCAAA GAAGGTATTC GTTTTAACTT TGAAAATCCT ATTTTTGATA      5940

TGAAAAGATC AACAAATGAA TTTATTGGTC GTTCTGCTAT GGTGACAAAA TTACTTTGTA      6000

TCTATACTGA GGGAGATCCT TTCTTTGGTG TAAATATTAA TAGTCAGAAA GAATTTTGGA      6060
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1114

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ACCACTTTGT TTCTCAGACA AATCAAGGTG GACCTTATCT GCAAAATCAT AAAATAATTG    6120

AACTGGTGTC CAAAACTTAT CCTGAGTTGG AGCCATCGAA ATTAGGAACT ATGCTTTTTG    6180

AGTATTCTAA GCTTTTTATG GAAAATAAGG AAGACAATAG TACAATGGAT TCATCAAACA    6240

ATTTTCGTCA TCAATTAACT CAATCTCTAT TAAAGTCTCC AAACCTCATC CTCCGCGGTG    6300

CTCCTGGCAC GGGAAAAACT TATCTTGCTA AAGAAATTGC TAAAGAATTA ACGGATGGCA    6360

ACGAAGATCA AATCGGATTT GTACAATTTC ACCCATCATA TGATTATACG GATTTTGTAG    6420

AAGGTTTAAG ACCAGTATCA AATGGGGATG GAGCTATTGA GTTTAGGCTA CAGGACGGTA    6480

TTTTTAAAGA TTTTTGTCAG AAAGCAAAAG AAACCCAATT GATTGGAGGA CAAGATAATT    6540

TTGATGAGGC TTGGGATTCT TACTTAGAAT ATATAAATGT TGCTGAAGAA AAAGAATATA    6600

TAACAAAAAC ATCTTACTTA TCTGTTAATA GTAGACAAAA TTTGTCAGTA AATTATGATA    6660

GTGGTGTTCC AGGATGGTCA CTACCTAGCA AATATGTTTA CGAGTTGTAT AAAGATAAAA    6720

ATTATAATAA GCAAGAATAC TACAAAAGTG GTGGAAAAAC TGTCCTAGAA ACATTGAGAA    6780

AGAGATTTGG TTTGAAAGAC TATGTTTCCC CAACAGAAAT TGATACTGAT AAGAATTTTG    6840

TCTTCATCAT CGATGAGATC AATCGTGGGG AGATTTCTAA GATTTTTGGC GAACTCTTTT    6900

TCTCTATCGA CCCCGGCTAT CGTGGTGAAA AAGGAAGTGT TTCTACCCAA TATGCAAATC    6960

TACACGAAAC TGATGAAAAG TTCTATATCC CCGAAAATGT TTACATCATC GGAACTATGA    7020

ATGATATTGA TCGTTCAGTG GATACCTTTG ATTTTGCTAT GCGTCGTCGT TTTCGTTTTG    7080

TTGAAGTTAC TGTCGAGGGT CAAGCTGGCA TGTTGGATAA AGAGTTGAAT ATCCATGCAG    7140

AAGAAGCAAA AATTCGTCTA AGAAACTTGA ACGCTGCTAT CGAAAATATT CAGGAATTAA    7200

ACAGTCATTA TCATATTGGA CCAAGTTATT TTCTTAAGTT GAAGGATGTA GATTTTGACT    7260

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AAAAAGATCA GGCAGTAGCT GATGACAATG AAGGCGATGA AAACGATGAT GCGGATTAcT    7440

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CCTCTTTTAG ACAGAACCTT GGAAAGTCTA TCCCAAGATG AACGTATTTT CATTTTTCCA    7560

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CAGAAAATCA AGACAGGGAA CGTGATTGGT TTTCTTGGAT ATGGTCAGGA AAGATTAACG    7680

ATTTCCTCAC GATTTTCTGA TGAGAGTAAT GACCACTTTT GCATTATCT CTTAAACAAG    7740

GTTCTTCATA TCAATCTCAC TAGTTTAGAT GTTGCTTTGT CTCGTGAAGA GAGGCTTTAT    7800

CAACTTTTGG TGTATCTCTT TCCCAAGTAT CTACAAGCTG CTATTCGAAA AGGTCTTTAT    7860
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1115

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AAGGAATATC ATCGATTTTC TCATAACGAC AGTCATGTTA AGGGAGTGAT TGATGTAAGA      7920

AACCATCTCA AGAAAAATCT TCCTTTCACG GGAAATATTG CCTACGCAAC GAGAGAGTTC      7980

ACCTATGATA ATCCCCTCAT GCAGTTGGTC CGTCACACTA TTGAATACAT TAAGAATCAG      8040

AAAAGCATTG GTCAAGGGGT ACTAGATAAT CTCTCAACTA GTCGTGAAAA CGTATCTGAA      8100

ATCGTGCGTG TAACGCCCTC TTATAAACTA GCTGATCGTG CTAAGATTAT TCGGGGAAAT      8160

CAATCTAAAC CTATACGTCA TGCATACTTT CACGAGTACA GAAACTTACA AGAACTTTGT      8220

CTGATGATCC TAAACCAAGA AAAGCACGGT TTAGGGTATC AAGATCAAAA AATCTATGGT      8280

ATTCTCTTTG ATGTTGCCTG GCTTTGGGAA GAGTATGTTT ACACCTTGTT GCCAAAAGGT      8340

TTTGTACATC CCAGAAATAA GGATAAGACG GATGGAATTT CAGTATTTTC TGTTGGGAAA      8400

CGAAAAGTAT ATCCAGATTT TTATGACAGA GAACGAAAGA TTGTTCTAGA TGCAAAATAT      8460

AAAAAACTGG AATTGACTGA AAAAGGAATC AACCGTGAGG ACTTATTCCA GCTGATTTCC      8520

TATTCTTATA TTTTAAAAGC TGAGAAGGCT GGACTGATTT TTCCTAGTAT GGAGCAGTCA      8580

GTAAATAGTG AAATAGGAAA AGTAGCTGGC TATGGAGCTC AATTGAAGAA GTGGTCTATT      8640

CGAATCCCTC AGAATGCCTC ATTCTATAGT ACATTTTGTA AAATGATGGA AAATTCAGAA      8700

GAG                                                                    8703
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(2) INFORMATION FOR SEQ ID NO: 178:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 4854 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear


    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 178:

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CATCACCAGT TTTAGATGGC TTTAACAGTG AAATTATTGC TTTTAATCTT TCTTGTTCGC        60

CTAATTTAGA ACAAGTACAA ACAATGTTGG AACAGGCATT CAAAGAGAAG CACTACGAGA       120

ATACGATTCT CCATAGTGAC CAAGGCTGGC AATATCAACA CGATTCTTAT CATCGGTTCC       180

TAGAGAGTAA GGGAATTCAA GCATCCATGT CACGTAAGGG CAACAGCCAA GACAACGGTA       240

GGATGGAATC TTTCTTTGGC ATTTTAAAAT CCGAAATGTT TTATGGCTAT GAGAAAACAT       300

TTAAATCACT TAACCAATTG GAACAAGCCA TTATAGACTA TATTGATTAT TACAACAATA       360

AGAAAATTAA GATAAAACTA AAAGGACTTA GTCCTGTGCA GTACAGAACT AAATCCTTTG       420

GATAAATTAT TTGTCTAACT GTTTGGGGGC AGTACACAAG AAAGCGCTTT AAAACCAGTA       480
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1116

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GACCTTTTCA TAAGGTTCGC TTGATGTACC AAGATGAGGC TGGTTTCGGT AGAATCAGTA        540

AACTGGGATC TTGTTGGTCT CCAATAGGAG TAGGTCCACA TGTCCATAGT CACTATATAC        600

GAGAATTTCG CTATTGTTAT GGAGCTGTTG ATGCCCATAC AGGCGAATCA TTTTTCTTAA        660

TAGCTGGTGG ATGTAATACT GAGTGGATGA ACGCCTTTTT AGAAGAGCTT TCACAAGCTT        720

ATCCAGATGA TTATCTTTTA CTCGTTATGG ACAATGCTAT ATGGCATAAA TCAAGTACCT        780

TAAAGATTCC GACTAATATT GGTTTTACCT TTATTCCTCC ATACACACCA GAGATGAACC        840

CATTGAACAA GTGTGGAAAG AGATTCGTAA ACGTGGATTT AAGAATAAAG CCTTTCGAAC        900

TTTGGAAGAT GTCATGAATC AACTCCAAGA TGTCATACAA GGATTGGAGA AGGAGGTGAT        960

AAAGTCCATC GTTAATCGGA GATGGACTAG AATGCTTTTT GAAAACAGAT GAGTATAAAA       1020

TTGAATTGCT TATAAAAAAG CTCCATACAC TGGATGTGTA TAGAGCAATG GGGCTTTATT       1080

TGATATAGAG TTCTTGGTTT TTTAGGACAA TTTCTCGGAT ACTTGCAAAC TTTTTAAGTT       1140

TTTTGATTTC TTCTGGATGA GTGACGAGAG TGATAACATA ACCTTCCTTG CCCATACGAC       1200

CAGTACGGCC AGCACGGTGT GTGTAGGTTT CGCTATCTCT AGGAATATCA AAGTTTACGA       1260

CACATTCTAG GCTATCGATA TCAATTCCAC GAGCCAAAAG GTCAGTTGCA AGAAGCAGGG       1320

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GCATATCCAC TCGATGACGT TGGTCTACCT GCATGTAGAA ATGCTGGATA TTGTCCAATT       1560

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TCGTGGCACT CATGTAGACC AGTTGGTGGT CACGAGGTGC GTAGTGAGTG ATTTTTTCTA       1680

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CATTCATCAT CTTGATTTTT TTAAGTTTAA TGAGTTCAAA GATACGGCCA GGAGTTCCAA       1800

TCAGAATTTC TGGCCCCTTT TTAAGACGTT CAATTTGTCG TTTCTGACTT GAACCTGAAA       1860

GGAAGAGTTG AGCAGTCAAT CCGATAGCTT CTGCCCACGT TTTACATACA TCAAAAATCT       1920

GTCCAGCAAG TTCCGTATTT GGTGCTAGAA TCAAGAGTTG TTGGGCTTTT TTCTTTTGTA       1980

GTCTGAGAAG ACTTGGTAGG AGATACGCTA GGGTCTTACC AGTTCCGGTT TGGCTCACTC       2040

CTAGGAGGTT TTCTCCAGCA AGAAGGGGCT CAAATAGTTG AGTTTGAATG GGGGTGAATT       2100

CTTGGAAACC GAGTTGGTCA CTCAGTTCTT GCCATTCAGT CGGTAGTTTG GTTTTCATTT       2160

TTCTGCCTCA AATCTAATGC CAGCAGTCTG GCGCATGGTA TATAGTAGCT CATGAACAGA       2220

GCCTGCATCA TACAGCCAAG TTTGGTAGAG ATTCAGATCT GGTTGCTGGA TCATGTGTGC       2280
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1117

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AAATGCAGCG ACTTCCTCAG TCATCGTATG AGGAGCCTGT TGGATAGGAA GCTGGACTTG      2340

ATTTCCTTGG TGGTCGGTAA AAATAGCTGA GCGAATATGC TCAATCGTGT TGAGAGTCAA      2400

GGTTCCATCT GTTGTATAAA TCTCGCAAGG AAGATTGGAA GTGATGTTTT TTCCAGCCTT      2460

GATGTGAACT TGATAGTCTG GGTAGAAGAG GATACCATCT CCATTTAGGT CAATGCTATT      2520

GTCAAGCTGT TGAGCATGGT AAGTCGCGTC ATTGGCTTTT CCAAAAAGAC GAACAGCAGC      2580

ATAGAGGGGA TAAATCCCCA AATCCATGAG GGCTCCACCA GCAAAACGGT CTGAAAAGAC      2640

ATTTGGTGTT TGTCCAGCCA ACAAGTCAGG CATCTTGGAA GAGTATTTGG CATAGTTGAA      2700

ATCTGCTCCT AACACTTGCT TATCTGCTAA AAAGTTTTTG ATAGTAGTAA AGGCTTTCTC      2760

GTGGTAATTA CGAGCTGCTT CAAAGATAAA ACAGTTATTT TTTTCAGCTG TTTGAATCAA      2820

ATCAAACCAT TCTTGTGGTT GAGAGACAGC TGGCTTTTCG AGAATAACAT GTTTACCAGC      2880

AGACAAGGCA GCTTTTGCCT GAGCAAAATG TAAGGAGTTT GGACTGGCGA TATAGACTAA      2940

ATCAAAAGAA GATTTGAAGA AGACTTCTAA TTGATCGAAT AGTTGGATAT TCTGATAGCG      3000

AGAAGCAAAG GTTGCTGCAG TTTCTAGTTT TCTAGAATAG ATTGCGACCA GTTGGTATTC      3060

TCCACTGGTA TGGGCTGCTT CTATGAAATG ATGGCTGATA GCGCCAGTTC CGATGACACC      3120

TAATTTTAGC ATAAATACTC CTTTTCCGAT TTTAAATCCT TCTTTCATTA TAACATAGAT      3180

AGACGGGACT ATCCAACAGA GAGGAGAAAA TTTCAAATAA GCTATTAGCT TTCTTTTCCG      3240

AATAAATAGA TAGAAGCATA GAATCTAGCA AACCTAGATT TAAAAATGTG CTATAATAGA      3300

AGGAGGAAAA GGAGGATTCT CAGACATCTA GGTATCAGCC CAACTAATGA TTTGTCAATT      3360

TATCCGCGAT ATGCTGGACT TGCCAGCAAA AAATGTGACG ATTTTGGAGG GAAGTAACAT      3420

TCACGTCTTG CCTTCCATGC CCTACTCAGC GTAAGATTTC TATACTAGTA TAGACGTCTT      3480

GGCGGAGTTA GATAATGGAA TCCAAGTTAT CATCGAAATT CAGGTTCATC ATCAGAATTT      3540

TTTCATCAAT CGCCTATGGC CTTATCTGTG CAGTCAGGTT AATCAAAACC TAGAAAAAAT      3600

TCGCCAACGT GAAGGTGATA CCCACCAGAG CTACAAACAA ATCGCACTAG TATACGCTAT      3660

CGCAATTGTC GATAGTAATT ACTTCTCAGA TGACCTAGCT TTTCATAGTT TTATAGTAAA      3720

ATGAAATGAG AACAGGACAA ATCGATCAGG ACAGTCAAAT CGATTTCTAA CAATGTTTTA      3780

GAAGTATAGG TCTACTATTC TAGCTTCAAT CTACTAGAAA TTCCATAGAT AGAAAACTAC      3840

ATAATCTCTA CAGATACGGA TGTTGGAGTT GATGTAAGAT GCTTTGGCTT GCTAGAGGAA      3900

TTGTGGATTG CCAAATTGTA TCATTGAAAT TATTGCTCAA ATTTGTTATG ATATAAATAT      3960

GAATAAAAGT AGACTAGGAC GTGGCAGACA CGGGAAAACG AGACATGTAT TATTGGCTTT      4020
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1118

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GATTGGTATT TTAGCAATTT CTATTTGCCT ATTAGGCGCA TTTATTGCTT TTAAGATCTA      4080

CCAGCAAAAA AGTTTTGAGC AAAAGATTGA ATCGCTCAAA AAAGAGAAAG ATGATCAATT      4140

GAGTGAGGGA AATCAGAAGG AGCATTTTCG TCAGGGGCAA GCCGAAGTGA TTGCCTATTA      4200

TCCTCTCCAA GGGGAGAAAG TGATTTCCTC TGTTAGGGAG CTGATAAATC AAGATGTTAA      4260

GGACAAGCTA GAAAGTAAGG ACAATCTTGT TTTCTACTAT ACAGAGCAAG AAGAGTCAGG      4320

TTTAAAGGGA GTCGTTAATC GTAATGTGAC CAAACAAATC TATGATTTAG TTGCTTTTAA      4380

GATTGAAGAG ACTGAAAAGA CCAGTCTAGG AAAGGTTCAC TTAACAGAAG ATGGGCAACC      4440

TTTTACACTT GACCAACTGT TTTCAGATGC TAGTAAGGCT AAGGAACAGC TGATAAAAGA      4500

GTTGACCTCC TTCATAGAGG ATAAAAAAAT AGAGCAAGAC CAGAGTGAGC AGATTGTAAA      4560

AAACTTCTCT GACCAAGACT TGTCTGCATG GAATTTTGAT TACAAGGATA GTCAGATTAT      4620

CCTTTATCCA AGTCCTGTGG TTGAAAATTT AGAAGAGATA GCCTTGCCAG TATCTGCTTT      4680

CTTTGATGTT ATCCAATCTT CGTACTTACT CGAAAAAGAT GCGGCCTTGT ACCAATCTTA      4740

CTTTGATAAG AAACATCAAA AAGTTGTCGC TCTAACCTTT GATGATGGTC CAAATCCAGC      4800

AACGACCCCG CAGGTATTAG AGACCCTAGC TAAATATGAT ATTACAAGCG GGGT           4854
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(2) INFORMATION FOR SEQ ID NO: 179:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 2186 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 179:

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TAAACAGGTG TTAGGTGCTC TAAACTATTA AAATTCTAAG GAAATAAGGC TACTTTTTCT       60

GGGTCTTGTT CATAGTAGGT GTGGTTCTTT TTTTCGAGTG TAGCCCATAG CTTTGAGCGC      120

ATAGTGGATG GTAGTTGGAT GACAGCCAAA TTCAGAAGCT ATTTCAGTCA AATAAGCATC      180

TGGATTGTCA GTAAGATAGT TTTTAAGTCT ATCTCTATCA ACTTTTCTTG GTTTTGTTCC      240

TTTTACTTGG TGGTTTAGCT CTCCTGTTTT CTCTTTTAGC TTTAACCAGC CATAAATGGT      300

ATTACGTGAG ATTTGGAAAA CGTGTGATGC TTCTGTTATA CTACCTGTTC GCTCACAATA      360

AGAGAGAACT TTTTTACGAA AATCTATTGA ATATGCCATA AGAAGATTAT ACCACATTGT      420

GTACTATTTT TGGTTCATTT TACTATATTT CTAAACACTT AGAAATAATA AAACAAATTA      480

AATATTATTT CTAAATATTT GAAAATAACA TCTATTTGTA TTATACTATC TTTGAGGTAA      540

CTATTATGAA CTATATCAAA AGACCACATT ATTTAGATTT TTTAAGAAAA CATCGTGACC      600
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1119

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GACCAATCAT CAAAGTTGTG AGTGGAGTTA GACGAGCTGG TAAATCTGTG CTTTTTCAAC        660

TCTATAAAGA GGAGTTACTA GCAACTGGGG TAGACGAGGA TCAGATTATA TTCATCAATT        720

TCGAAGATTT GAGTTACTAT GATCTGCGAC ATTTTCAAAC ATTATTCGCT TATATAAAAG        780

ATCAATTAGT TAGCAAGAAA ACATACTATA TCTTTTTAGA TGAAATTCAA TATGTTGAAA        840

AATTTGAACT GGTAGCAGAT AGTCTATTCA TCTTAGCAAA TGTAGACCTC TATTTGACTG        900

GATCTAACGC CTACTTTATG AGTAGCCAAT TAGCAACAAA CTTGACTGGT CGGTATGTTG        960

AGATAGAGGT TCTTCCTTTG TCATTTGAAG AATATCTATC AGGTCAATCT CTCACAGAGA       1020

ATCTGAATAC AACAGAAATT TTTAACAATT ATCTCTTTAG TGCTTTCCCT TACTTATTGC       1080

AAACATCATC TTACGATGAA AAAATTGACT ATCTCAGAGG AATATATAAC TCCATACTGT       1140

TAAATGATAT TGTCACTAGA TTGGGAAAAC CAAATCCTAC TATTATTGAG CGCATTGTCC       1200

GAACCCTTCT CAGTAGTACA GGTAGCTTAA TATCAACAAA TAAGATTCGC AATACCCTAG       1260

TCAGCCAAAA TGTTTCAATA TCCCATAATA CTTTGGAAAA TTATTTGACA ACTTTGACAG       1320

ATAGTTTACT TTTTTATTCC GTTCCACGTT TTGATGTAAA AGGTAGAGCA TTATTGCAAC       1380

GTTTAGAAAA ATATTATCCC GTTGATTTAG GTTTACGACA TCTCTTATTA CCAGACCAGA       1440

AAGAAGACAT TAGGCATATC TTGGAAAATA TGGTATATTT GGAATTGAGA CGTAGATATT       1500

CACAAGTATA TGTTGGTAAT TTAGATAAGT ATGAGGTTGA TTTTGTTGTT GTAACTGATC       1560

TTGGCCACTA CGCTTATTAT CAGGTCAGTG AAACAACACT TGCTCCAGAA ACACTAGAAA       1620

GAGAACTTAG ACCACTAGAA GCCATTAAAG ATCAATTCCC TAAATATCTA TTAACAATGG       1680

ATACGATTCA GCCAACAGCC AATTACAATG GAATCGAGAA GAAAAGCATT ATAGATTGGT       1740

TACTAGAAAA ATAGATAAAT ATAAATCATA CAGCTAATTA GATTTGCAAC AGTCTGTTAT       1800

CAATGATTCT ACCCAAATCC TAACAAGATA TAGTGAATTT CGAATACGCT ATATAATACG       1860

GACACTTGAA AATAGAAATT GGGGATGAAA GGGGATCTAT AATTTCTGGA AGTACTATCA       1920

AAAATTAATA TCATAGTCTT ATTAGAGAAT AGCATCACCC ACTTTCTCAA ATAAGATTAA       1980

ATTGTAACTG AATTATAATG AAAAAGAGAC TGAGCAATCA GTCTTTAAAA TCAGAAAAGC       2040

GCATAGTATC AGGTATTGAA CAACCTTGAT AATATGCGTT TTATTATGGA AATATTTGCT       2100

TCATTTTCTC CTGAAATAGA GCTTTTGCTA TCCTATTTTT CTCTATTTCT AATGATTTAC       2160

TTCAACTTCT TACCTCTTGG GAAAAA                                           2186
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(2) INFORMATION FOR SEQ ID NO: 180:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 3236 base pairs

1120
    (B) TYPE: nucleic acid
    (C) STRANDEDNESS: double
    (D) TOPOLOGY: linear


    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 180:

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GTCACACGTT TGACTTCACG TATTTCATAA GTATAAACTT TATTTTTATC GGTTAGATAA        60

ATCTTCATGC CATTTTTAGC ATTATCTAAA GGAGAAAATA ACATTTTATT AGCATTATCA       120

ACACCAAAGA TATGGTGACT AGCTAGACTA TAATTTCCTT CTCCCATTAC TTGCTCGCGT       180

TTCATTGTAC CAGCTCCGTA GAAGAGATTA ACATTATCAA GTCCTTTAAA AATCGGCAAA       240

TTCATTTCCA ATTCAGGAAT TGCAATTCCC CCAATAACTG GTAATTTTTG AGCATCCCAT       300

TGAGAAGTTA GAACAGCTTC CGAAGAGATA GCTTTGACAG AATCAAAGTC AAAATTGCCT       360

TCTGTATCCT GATTTCTTC TAATTTTTCT TTTGATACCT GGCTAACTTG ATACTTATTG       420

GTATTCCAGA CTATGAAAAT ATTTCGAATT TGAGTATTAA AAATCAAAGC CAGTGACAGT       480

AATATCAGAA ATCCTGCTAG GATATTTGTC AGCAGATTTT TTCGCTTGTT TTTCTTTTTA       540

TTATTTTTTT GAGACATTAT GCTTCACCTT CTGTTTCGTT TTCTGTCCCA ACTTCTTCTT       600

TTTCTGCCAC CGCAACCGTT GTGAAAGTCA CTATCTGAGC ATCTTGATCC AGGCGCATTA       660

CTTTAACTCC CATAGTTGCA CGTCCTGTTT GTGAAATATT GGCAAGATTG GTTCGAATCA       720

TGACACCTGT ATCAGTGATA ATCATCAAAT CCTCATCCCC TTGAACAGTC ATAAGACCGG       780

CCAGCAAGCC ATTTTTTTCG GTAATTTTAG CTGTCTGCAT TCCCTTACCA CCACGACCTT       840

TTGTTGGGTA TTCAGTAGCG ACTGTACGCT TACCATATCC TTTTTCTGTG ATAATAAGAA       900

CCTCATCTTG ATCAGTAATC AAGCTGGCAC CAACAACTGT GTCTCCTTCA CGAAGGTTAA       960

CACCTTTCAC ACCAGTGGCG ATACGGCTCA TACCACGAAC GGCTGATTGA TTAAAGCGAA      1020

CTGCATAACC AAACTTGGTA CCAATGATAA TATCCATATC TCCTTCTGCC AACAAGACAT      1080

TGATTAACTC ATCTTCATCC TTTAAATTCA GCGCTTTGAG ACCATTTTGA CGAATATTGG      1140

CAAACTCCTT AACACTGGTT CTCTTCACAA TACCGTGACG GGTTGTAAAG AAGAGATAAG      1200

CATCATCACT GCGATCAGAC TCAACATTGA TAACCGTCTG AATACTTTCG TCTTCATCCA      1260

ATTTCAAGAG ATTGACTACT GGTAGCCCTT TGGCAGTCCG ACCATACTCA GGAATTTCAT      1320

AACCTTTAAG ACGATAGACA CGTCCCTTGT TTGTGAAGAA GAGCAGATGA TCATGGGTGC      1380

TAGTTGACAC TAACTCACGA ACAAAGTCAT CATCTTTCAC TCCCGTTCCT TGGACACCAC      1440

GACCCCCACG TTTTTGAGCA GTGAACTCGT CCTGATCCAA ACGCTTAATG TAGCCTCTGT      1500

TAGAAAGGGT AATCAAGACA TCCGATTCTT CAATCAAGTC CTCATCCTCG AGACTCAAGA      1560
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1121

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CCTGTCCAAT CATCAACTCT GTACGGCGCT TATCAGAAAA TTTACGTTTA ACTTCATCCA      1620
ATTCGTCTTT GATAATTTGA GAAACACGTT CAGGCTTAGC AAGAATATCT GCTAAATCCG      1680
CAATCAGAGC CAAGAGGTCA TCATACTCAG ATTGAATCTT ATCGCGTTCC AAACCTGTCA      1740
AACGACGAAG ACGCATATCA AGGATAGCTT GACTTTGACG TTCAGAAAGC TTAAACTTGC      1800
TCATCAACTC AGCTTGAGcT TCCGCATcCG tTTCACTAGC ACGGATGATA CGAATCAyTC      1860
GTCGATATGG TCTAGCGCAA TCAAGAGACC TTCTAAGATA TGAGCGCGCG CTTCCGCTTT      1920
TTCCTTATCA AAACGTGTAC GACGAACAAC CACTTCTTTT TGGTGCTCGA TATAAGCATC      1980
CAAAATCTGA CGAAGAGACA AAATTTTCGG TATACCATTT TGGATAGCGA GCATATTGAA      2040
ACCAAAATTG GTTTGCATTT GGGTCATTTT GAAGAGGTTA TTGAGAATAA CATTGGCTGA      2100
GGCGTCGCGC TTGACTTCAA TAACAAATCG AACACCTTCA CGGTTTGACT CATCACGTAC      2160
TGCTGTGATA CCCTCAATGC GTTTTTCCTG AACCAAGCGA ACAATATGCT CATGCACCTT      2220
GGTTTTATTG ACCATGTAAG GAAATTCTGT TACAACGATA CGCTCACGAC CAGTCTTAGT      2280
CGTTTCAATC TCTGTACGAG AACGTAGGAC AATCGAACCT TTACCTGTTT CATAAGCCTT      2340
ATGGATACCT GATTTCCCCA TGACAAGAGC ACCAGTTGGA AAATCTGGTC CAGGCAAGAC      2400
TTCCATCAAG TCCTTGGTAG TCACTTCAGG ATTATCCATG ACCAACTTCA CTGCATCAAT      2460
gGTTTCACCC AGATTATGAG GTGGAATATT GGTTGCCATC CCAACCGCGA TACCAGTTGC      2520
TCCATTAACC AAAAGGTTTG GAAAACGCGC TGGCAAGACC AAGGGTTCCC GTTCATTGGC      2580
ATCATAGTTA TCAACGAAAT CAACTGTATT TTTGTTGATA TCACGAAGCA TTTCCAGAGC      2640
AATCTTGCTC ATACGTGCCT CGGTATAACG TTGAGCGGCA GCACTATCTC CATCCATGGA      2700
ACCAAAATTC CCATGACCAT CTACAAGCAT GTAACGGTAG CTCCACCATT GAGCCATACG      2760
GACCATGGCT TCATAAATAG AGGAATCCCC GTGTGGGTGA TATTTACCCA TGACATCCCC      2820
TGTAATACGA GCAGATTTTT TATGGGGTTT GTCTGGGGTC ACACCCAATT CATTCATTCC      2880
GTAGAGAATG CGACGGTGAA CAGGTTTTAA GCCATCTCGA ACATCAGGAA GAGCTCGCGC      2940
TACGATAACA CTCATGGCGT AGTCGATAAA ACTTGCCTTC ATCTCCTTTG TCAGATTGAC      3000
ATTCACTAAA TTTTTATCCT GCATTAATAA ATGCCTCATT TCACAATTAG TAAGTAACAA      3060
CATTATACCA TAAATTCCCA TCTATTTCAG CCTCTAAACC ACTAAAACGT TTACATCGAG      3120
AACTATAAGG CATATTCGTG ACAAAGTTTT TTAAAAGTGA TAGAATGAAG TTGTCTAGGG      3180
AAAACCCCTA ATAGAATAAG GAGATGGTTA nACAATGACT CTGACTAACA CACAAA        3236
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(2) INFORMATION FOR SEQ ID NO: 181:

1122

(i) SEQUENCE CHARACTERISTICS:
    (A) LENGTH: 8651 base pairs
    (B) TYPE: nucleic acid
    (C) STRANDEDNESS: double
    (D) TOPOLOGY: linear


    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 181:

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AGGTCCTGAA GTATTGGAAC AGGAAGGTCA AGAGTTTTTG GAACATTTCA AAAAACTCTT        60

GGAGTCAGTT GAAGTAGTAG CCATCTCAGG TAGTCTGCCA GCTGGCCTTC CAGTTGATTA       120

CTATGCGAGC TTGGTAGAAC TTGCTAATCA AGCTGGCAAG CATGTAGTCT TGGACTGCTC       180

AGGTGCAGCA CTTCAGGCTG TTCTTGAATC ACCCCATAAA CCAACAGTCA TCAAACCAAA       240

TAATGAAGAA TTGTCTCAGC TTCTTGGAAG AGAAGTTTCT GAGGATTTGG ATGAATTAAA       300

AGAAGTACTT CAAGAACCTT TGTTTGCAGG GATTGAATGG ATTATCGTTT CACTTGGTGC       360

CAACGGTACT TTTGCCAAAC ATGGTGACAC TTTCTACAAG GTAGATATTC CTAGAATTCA       420

GGTGGTAAAT CCTGTTGGAT CTGGAGACTC TACTGTGGCA GGAATTTCTT CAGGACTTCT       480

TCACAAAGAA TCGGATGCAG AATTACTCAT CAAGGCAAAT GTCCTTGGTA TGCTCAATGC       540

TCAAGAAAAA ATGACTGGTC ATGTCAACAT GGCCAACTAT CAAGCTCTAT ATGATCAATT       600

AATAGTAAAA GAGGTATAAA ATGGCTTTAA CAGAACAAAA ACGTGTACGC TTAGAAAAAC       660

TTTCTGATGA AAATGGTATC ATCTCAGCTC TTGCATTTGA CCAACGTGGT GCTTTGAAAC       720

GCCTCATGGT TAAACACCAA ACAGAAGAAC CAACTGTGGC CCAAATGGAA GAACTTAAAG       780

TCTTGGTAGC AGATGAATTG ACTAAATATG CTTCATCTAT GCTTCTTGAC CCTGAGTATG       840

GACTTCCAGC AACTAAAGCT CTTGATGAAA AAGCTGGTCT TCTCCTTGCT TATGAAAAAA       900

CAGGTTATGA CACAACAAGC ACAAAACGCT TGCCAGACTG CTTGGATGTT TGGTCTGCAA       960

AACGTATTAA AGAAGAAGGT GCAGATGCAG TTAAATTCTT GCTTTACTAT GATGTAGATA      1020

GCTCAGACGA ACTCAATCAA GAAAAACAAG CCTACATCGA ACGCATCGGT TCTGAGTGTG      1080

TGGCTGAAGA TATCCCATTC TTCCTTGAAA TCCTTGCTTA CGATGAAAAA ATTGCGGATG      1140

CAGGTTCTGT AGAATACGCT AAAGTAAAAC CACACAAAGT TATCGGCGCT ATGAAAGTCT      1200

TTTCAGACCC ACGCTTTAAC ATTGATGTTT TGAAAGTTGA AGTTCCTGTT AACATTAAAT      1260

ATGTTGAAGc kTCGCTGAAG GTGAAGTAGT TTATACACGT GAAGAAGCAG CAGCCTTCTT      1320

CAAAGCGCAA GATGAAGCAA CGAACTTGCC ATACATCTAC TTGAGTGCTG GTGTATCAGC      1380

TAAACTCTTC CAAGATACTC TTGTATTTGC TCATGAATCA GGTGCGAACT TTAACGGAGT      1440

TCTTTGTGGC CGTGCTACAT GGGCAGGATC AGTTGAAGCT TACATCAAAG ATGGTGAAGC      1500
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1123

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AGCAGCTCGC GAATGGtCGC ACAACTGGAT TTGAAAACAT TGACGAACTC AACAAAGTTC      1560

TTCAAAGAAC AGCAACTTCA TGGAAAGAAC GCGTGTAAGA AAGTCCTCCT AGTTTAGGAA      1620

CATGAATCTA AAAAAATTTA AAAAAAGTTG TATGTAAAGG CTTACAAAAT AACTTACTTG      1680

TGCTATACTT AAATCACAAG TTAATATGAA TTAGAAAGTA ACTATATGAA GTATAATAAA      1740

AATAGGATAT AGTTTATTTT ACGAGCTAGG AAGGAAAAAT ACGGAAACAA TATTGCCAGA      1800

ATAAACTATA TTTAGATGCA CATTTCATTC ATTGTTTTAT AAAAGGAGAA GATAAACGGC      1860

TACTAAAAAG AGTTTTAAAG CGTTAGTTGT AGGACTAGGT ATTGTTTCAA TATTCTTATC      1920

AGCCTTACCT ATGGTTAGTG GTTCTGTATT TGCAGATAGT GCCCTAACTA CAGTAGATAA      1980

AGCAAATGAT ATTGTTTTGA ATGTTGATGG GAATAAATTT TATAATGTTT CGGTTTCAGA      2040

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TATAAATTTA AAAGGCACTC CTGAAGAGTT AGCAAAAAAT ATTGGTATTT CTGTACAAGA      2160

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AGGTTTTCGT TTCAATCTTG GTCCTCAAGT GAGGGGGATG GGTGGCTGGG CTGCTGGAGC      2280

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TGGATTTGTT GCTGTAATAA GTGGTGCGAT TGGCTGGGCT GTAAAAACTG CTGTAGAAAA      2400

TTATTGGACA GTTGCTGTAG CTACAGTAGA AGTGCCGTTT GTGAACCTTG TTTACACCAT      2460

AGATTTACCT TAGAGGTTAT TTCTTTATGA ATCATTCTTT TAAAAAAATA ACTGTATTTT      2520

GTTTTATAGT TTCTTGTGTT CTTTGTTTAT TAGACTTAAT GAATTTTAAA AATGTAGCTA      2580

CTTTTTTATT TTTCTGTCTT CCTGTTTTTG TTTTGATTTA CAAAAATAAA TAAAAACAGA      2640

GCCTCTGTTT GATGAATTTT AGAACATAGT TAAGTTTTAA AAAAAGTTGT ATGTAAAGGT      2700

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TTGTAATTGG TAAGGGAATT GCATTCGGAA AGAAGAAGGG GGATTTGATT GCTGAAAATC      3000

AGGTTGAGAA AATCTTTCGG ATGAAGACCG AAGAGTCCAG AGAAAACTTT ATGGCTCTTC      3060

TCAAAGATGT TCCGCTTGAT TTTATCACAG TGACCTATGA AATCATTGAT AAGCTATCAA      3120

AGAAATATCA TTATCCGATT CAAGAGTATC TCTATGTAAC CTTGACAGAT CATATTTACT      3180

GTTCTTATCA AGCTCTAACT CAAGGAAGGT ACAAGGATAG TAATCTGCCA GATATTTCCG      3240
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1124

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CTAAGTATCC TGTCGCTTTT CAAATCGCAA ATGAAGCTTT TGAAATTTAC CGTCAGAAGC    3300

TAGCAGATCA TTTTCCTGAG GACGAAATTA TTCGGATTGC TTATCATTTC ATTAATGCTG    3360

AAGGTGAAAA TGAAGTGGAA CTTGTGGAGT CGATTGATAA GAGGAAAGAA ATTCTCAGGA    3420

ATGTTGAAGA AGTTTTAACG GACTATGCAA TTCAACGAAC TAAAAAGAAT AACCATTTCT    3480

ATGATCGCTT TATGATCCAT TTGAATTATT TCTTGGATTA TTTAGACAGA TCTAGAGATG    3540

ATAACCAATC ACTTCTGGAT ATGGAAGATC ATATTAAACA ATCCTATCCA AAAGCCTTCG    3600

AGATTGGTTC CAAGATCTAT GATGTGATTA CGCAACATAC GGGTCTTGAT TTGTATAAAA    3660

GTGAACGAGT TTATCTAGTT CTACATATCC AACGTTTATT GTCATAAAAA TTTATTTAAA    3720

ACTATATAAG GAGAATTCTA TCATGAATAG AGAAGAAGTA ACATTGTTAG GTTTTGAAAT    3780

CGTAGCCTAT GCTGGCGATG CTCGTTCAAA ACTATTGGAA GCCTTGAAGG CTGCTGAAGC    3840

TGGTGATTTT GAAAAAGCGG ACGCTCTGGT AGAGGAAGCT GGTAGCTGTA TTGCAGAGGC    3900

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GCATCATTTA ATTGAACTCT ACAAGAGAGG AGTTCAATAA TGAATAAACT AATTGCATTT    4080

ATCGAGAAAG GAAAGCCTTT CTTTGAAAAA CTATCTCGTA ATATCTATCT TCGTGCTATT    4140

CGTGATGGTT TCATTGCAGG TATGCCTGTT ATTCTCTTCT CAAGTATCTT TATCTTGATT    4200

GCCTTTGTAC CAAACTCATG GGGCTTTAAA TGGTCTGATG AAGTTGTAGC CTTTCTGATG    4260

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GGTACAGGTG CGACATTGGT CGTTCCATTT ATGTTCATGT GGTTGACAAA ATCGAAACGT    4980

AACCGTGCAA TCGGACGTGC TTCAGTAGTT CCTACCTTCT TCGGTGTAAA TGAACCAATC    5040
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1125

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TTGTTTGGTG CACCTCTTGT TTTGAATCCA ATCTTCTTCA TTCCATTTAT CTTTGCTCCA    5100

ATTGCAAACG TATGGATTTT CAAATTCTTT ATTGAAACTC TTGGAATGAA CTCATTCACT    5160

GCTAATCTAC CATGGACAAC TCCAGCTCCA CTAGGTCTAG TTCTTGGAAC TAACTTCCAA    5220

GTGCTATCAT TCATTCTTGC TGCCCTTCTA ATCGTGGTTG ACGTTGTCAT TTACTATCCA    5280

TTCCTTAAGG TCTATGATGA ACAAATTCTT GAAGAAGAAC GTTCAGGTAA GTCTAATGAT    5340

GAATTGAAAG AAAAAGTTGC TGCAAACTTC AACACTGCAA AAGCGGATGC TATTCTTGAA    5400

AAAGCGGGTG TCGATGCAGC ACAAAATACC ATCACTGAAG AAACAAATGT CCTCGTTCTC    5460

TGTGCAGGTG GAGGAACAAG TGGTCTCCTT GCAAATGCTT TGAATAAGGC AGCAGCAGAA    5520

TACAATGTCC CTGTGAAAGC AGCAGCAGGC GGCTATGGTG CTCACCGTGA AATGTTACCA    5580

GAGTTTGATC TTGTTATCCT TGCCCCTCAA GTTGCTTCAA ACTTTGAAGA TATGAAAGCA    5640

GAAACAGATA AGCTCGGTAT TAAACTAGCG AAAACAGAAG GCGCTCAATA CATCAAATTA    5700

ACTCGTGATG GAAAAGGTGC TCTTGCATTC GTACAAGCGC AATTCGATTA AGGCTAGAGA    5760

CTCTGAAATA GTCTCCCATC GTTACGGAAA TCGCTATGGC GAATTTCCTA TTATTAATTC    5820

GTCGGTAAAA AGATATCGTT TTTACCTCCT CATGTCACAA TTCGGTGACT TGGTACAAGA    5880

AGTGAGATGG AGAAGGATGG CTCACTGACT CCTCTCCTCT CACTTTTACT TTATTTAAAT    5940

CAAGAAATAG GTGAAAAAAA TGACAAAAAC ACTTCCAAAA GACTTTATTT TTGGTGGCGC    6000

AACAGCTGCT TATCAAGCAG AAGGTGCTAC ACATACTGAT GGAAAAGGAC CAGTTGCTTG    6060

GGATAAATAT CTTGAGGATA ACTACTGGTA CACTGCCGAA CCAGCTAGTG ATTTTTACAA    6120

TCGATATCCA GTTGACCTCA AGCTAGCAGA AGAGTATGGT GTCAATGGTA TTCGAATTTC    6180

TATTGCTTGG TCACGTATTT TCCCGACTGG TTACGGCCAA GTAAATGCTA AAGGTGTTGA    6240

GTTTTATCAT AATTTATTTG CAGAGTGTCA CAAACGTCAT GTTGAGCCTT TTGTAACTCT    6300

TCATCACTTT GACACGCCAG AAGCTCTCCA CTCAAATGGA GACTTCTTAA ACCGTGAAAA    6360

TATCGAACAT TTTGTAGACT ACGCTGCCTT CTGTTTTGAA GAATTTCCAG AAGTAAACTA    6420

TTGGACAACC TTTAATGAAA TTGGACCAAT CGGTGATGGT CAATATTTGG TTGGGAAATT    6480

CCCTCCAGGT ATCCAGTACG ACCTTGCCAA AGTCTTTCAA TCACACCACA ATATGATGGT    6540

GTCTCATGCA CGCGCGGTAA AATTGTACAA AGAGAAAGGC TATAAAGGGG AAAATTGGTGT    6600

TGTTCACGCC CTGCCAACTA AATATCCTCT AGATCCTGAA AATCCAGCAG ATGTTCGTGC    6660

AGCTGAGTTG GAAGATATCA TCCACAATAA ATTCATCTTA GACGCAACTT ATCTAGGTCG    6720

CTATTCAGCT GAAACCATGG AAGGTGTCAA CCATATCTTA TTAGTCAATG GTGGTAGTTT    6780
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1126

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GGATCTTCGT GAAGAAGATT TTACAGCATT AGAAGCTGCA AAAGACTTGA ATGATTTCCT      6840

AGGAATCAAC TACTATATGA GTGACTGGAT GGAAGCCTTT GATGGAGAAA CTGAAATTAT      6900

CCATAATGGT AAAGGTGAAA AAGGAAGCTC TAAGTATCAA ATCAAAGGTG TTGGTCGTCG      6960

TGTAGCTCCT GACTATGTAC CACGCACGGA TTGGGATTGG ATTATCTACC CTCAAGGTTT      7020

GTATGACCAA ATCATGCGTG TGAAGAAAGA TTATCCTAAC TACAAGAAGA TTTACATCAC      7080

TGAAAATGGT CTCGGCTATA AAGATGAGTT CGTTGATAAC ACTGTTTACG ATGATGGTCG      7140

TATTGATTAC GTGAAGCAAC ACTTGGAGGT TTTATCTGAT GCGATTGCAG ATGGAGCTAA      7200

TGTAAAAGGT TACTTCATTT GGTCATTAAT GGATGTCTTC TCATGGTCAA ACGGTTATGA      7260

GAAACGTTAT GGTCTCTTCT ACGTAGATTT TGAAACTCAA GAACGTTATC CTAAGAAATC      7320

AGCTCACTGG TACAAGAAAG TAGCGGAAAC TCAGATTATA GACTAGTAGA ATTAGTCATT      7380

AGATATAGAA TTTTAGTGAG TCAAAAAGAT GTTCAAAGAT TTTATCCAAT CTATTTATGA      7440

AAAAAAGTTT ATATTATAAA TTTCGAAAAA TGCTCTCAAA TACCGTGTTT GACGAGTGAA      7500

GAATTGAAAA GTCTTGGAAA ATGGTATGTC TCGACTGGTA AAGAATGGAT TTGTCATTCA      7560

GATGATGAGC TGGAAGAATT TAAAAATCTA TTTTTAAATT TTATCAATCC TGAAGAATGG      7620

GATACTATCT CCTTTGATTC AGATTTTATG CCGTTTCAAC AATCGTAACC AATTTCTCAA      7680

AAAAGTTAAA TCTTATATTT AGTACTCTGT AAAACTCTTA TCTAATCACG TTGCTTATAC      7740

TCAATGAAAA TCAAAGAGCA ACTTTAAACT AGGAAGCGAG TCGCAGATTT CTCAATGCAT      7800

AGCTTTGAGG AATTGGGCAA AAAGTCTTTG ATATAGAAAA ACGCATAGTA TCAGGTGTTT      7860

CAACACCTGA TACTATGCGT TTTATTGTGG GAAGATTTAC TTTTTTTCTT CTGAAATTGA      7920

GTTGTTACCC AGGCTCTTTC AGTTTATTAA GGCTTGATGA CTTTAATGTG TTTAGATAGC      7980

TTAAAAAGGA TTGAATCACT TAGTTTAGAA TCTGAAACAA TAGTATCAAG ATTTGATACA      8040

TTATAAAAAG TATAAAAATC AAACTTATTG AACTTGCTAT GATCTGCGAG TAAATATTTT      8100

TTATTAGAAT TATTTAAAGC GATGCGTTGA GCCTCTCCCT CTTCCTCGCT AAAAGTAGCT      8160

AGAGCTCCGT TTTGAATACC ATTACAGCTA ACGAAAGCTT TAGAAAATTG GAGATTAGAG      8220

AGATTTTGTA GGGTCAATGT ACCAACAAAA GCACCTGTAA TATCGCGATA ATTTCCACCT      8280

ATTAAAATCA AATCTGTTAA TTTTCGTTCG CTTAAAATCA GAAAAACAGG TAGACTGTTG      8340

GTTACGACGC GGATATTGTC AATAGGCAAC TCACGCGCAA AAAACTCTAA TGTTGTTCCT      8400

GGTCCAATGA AAATAGTTTC TCTTTCTTCT ACTAGACTGC CTGCAAAATG GGCTATTTCT      8460

TGTTTTTCTG CCGTTTGGAG GGCTTGTTTT TCAATATTTG ATCGCTCATT AGTCAAAAGG      8520

GAGTTGGTTC GAAGTTTTTC AGCTCCACCA TGCACACGAA TCAGCAAATC TTTATCAGCT      8580
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1127

AATTCCTGTA AATAGCGCCT TGCAGTCATA TCTGAAACGG CTATTTCGTC CATAATCTGT        8640

TTAACTGTTA T                                                             8651

(2) INFORMATION FOR SEQ ID NO: 182:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 3786 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear


    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 182:

AATCTCCAAT CAGTGCCACT TCAGCTACAA AGAAGAGGAG GATAATAACT CCGTTCACAA          60

GGACAGACAA GAATAATTGA TAGAAGGAGT CGGTTTCACT TGCTTGACTT GGTCTTGTAA         120

TGATwTGGAG ACTGGCAAGC AGAATGATTC CAATGCTAAT CACACACAAG AGGGCTGTAA         180

ATCGTAGGCT ATCAAAGAAA GCAAAGAAAC TAGCAATAGC AGTGAGGAmG ATTGGAATTG         240

CCAAGAGTTG ACTATATTGT TGGAGAACCT TGTCTAGCGT CCAGTCCTTT TCCTGGTGGA         300

TAAATCGTCT CACAACGAAA CTACCCAAGA GGAATGAAAA GAAGAAGAGT GTTGTCGCTA         360

CTAGGATAGA GATGATAGAA AAAAGAGTTA AAGGAGCTAG CTGCTCAGGG AAGCGACTGT         420

TAATGCTTGC TATATGTCCA TAGTAAGCAT GTTTGATGTG ATAGATACTA AAGAAAAAGG         480

AAGATGCAGA AAACAGAATG AGCAAGAGAA AGGCTGTGTA ACTGTGTGTG ATACTTGTTT         540

CCAACTTACT TGTAGGAGAT TTGATCGCTT CCACTAGCCA AGACCAAAAA TCAAGCACTT         600

GCTCTTTCCA TTTATCCCTA GATTTTGGAG CTTGGTCGGG GATATAAGGA CTTTCTAAAG         660

ATTTACTGAT AAGAAGTGGC TCTTTCGTGG TTGCTTTTTG CTGAGGAAGA GCTTCTTGGC         720

TCTCTTCAGC TATAGTGACT TTTTCTGTTT CTTTAGAAAG GTCTGGCTCT TCTTCAGTAG         780

AATTAGATGC CTTCTTTTCT TCTATTTCTG TTCTCGCTTC ACTGTCTTCA GGAGCTTCAA         840

TTTTCTCTTC TTGCTGGCTT TCCAATTCGA CTTCAGCTTG AGGGACTTCC TCCTCTAACT         900

GAGTATTTTT TTCAATTGGT GTATCGAGAT CGGCTATCGT TTCTTCAGCC TTGTCTGCAA         960

CCTCTTGAGC TTGCTCTTCA GGCTTGTTCT TGCTTGTTGT TTTTACAAAA TCATTACTTT        1020

CAAACCATTC TTGTTTCATG GTAGAACCTC CTTTTTAGTT AGATAAATAT GTTTCCATAG        1080

TAGCAAATGT AAGCGTTTTT GTCAACGTCT GCTTGGTGTG GATATTAGAT CAATATTATC        1140

ATCAGATCTC GCAATGAGTT GATCCTTGAC ATCGGTTTTT TCAGTTTTGT AAGGGTTGCT        1200

TAATTCCGTA CCTCTTGATT CAGGCTTTTC TCTTGTGAAT TGGAAGATAG AACCATAGTT        1260

1128

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GCTTGAGATG TCCCAGTTAA TTCGTTGGCT TTCTTTCTGG TCTAGGATGA TTCTGAGATA      1320

ATCTTTGGCA GTCAGTTCAA CCTTGCCATG GACTTGGATA TTTTCAGCGT GGAAGTGATT      1380

CTCTGTTGAC TCTAGCTGAC TATCTGTAAG AACTGTATCA AAGATATTAA CGATATTGGG      1440

CGTTGTGAGT TTACTGTTTT TGATACGACT TCCTTCAATT CGGAGGATAT AGCTGTTTGT      1500

ATTGAGGGTC GCATTTTCAA GGCTAGCATT TATGATGGTG GTTTGTCCGC GATTGGCTGA      1560

GATGTTGATC CCTTTTAGAG TTCTCCCTTT TGGTAGTCGG AGAATAACTT CTTCAAAACG      1620

ACTAGAGTAG CTACTTGCGA TATGAAGAAT CCCACCAATT CCAGAAGAGA GAAACGGAGT      1680

TTCAGACAGT TTCTTATCAG TGAGACTCAG AGTTCTATCG TTCTGATTGG TGATAAGATC     ‘1740

ATGGTGAGCA GAAAGAGATG GATGGTAAGA AATGTGGATT TGATCATCGA AAGAGTCTGT      1800

GATGGTGAGC GTGTGTTGGT GGAGAGTAAT TTCTAGGTTT TCGACTTCCT TGCCAAAGGT      1860

TAGCTTTTCC GTACGGCTAT CATAGACAGG TTCTTTGGAC ATGGAAAGTA GGCTCTTAAt      1920

CCCGTCAGAT TGGATACCTA CAAAAAGCAG GATAAAGCCG ATAACGGTAG TCACCACACC      1980

AAAGATGAGA AATCCTTTTG TCCATTTACG CATGCTGATT ACCTCTCTTT CCTTTTTTAA      2040

GAACAAATTG TACCAGACGA ACAATGAGTA GACCGAAGAA GCGAGTTGCA TAGGAAATGC      2100

CAAGTAAAAC TAGCGAAGAA GCACCGATAG CCAGTAAACC AGAACCAAAA ATCAAGATAA      2160

AGGCTGATTT GGCTTGGGCG AGGACAGTGA AACTTTCAAC TAAAAATAGG AATCCGCCGA      2220

TGATACCCAG TATGGAAACT GCAAAGAAAG CCAGAATGAC AGTCAAAGCG GCTACAAGAA      2280

TTGCGAACAG GGTCACGAGG ATGGCGATTC CCAGAGGAAT GCCGATAGGT GCTGCAAGGA      2340

GGGCTAACAA GGCGATATGT AAAATTTGTC GGTTATTTTT TTGAGCGGGT GCTTCATTGA      2400

TTTTTTTATC GAGAAGATTG GATAGAACTT CGTGGGCCGC TTCTTTGGGA GTTCCCAAAC      2460

TAGCGATGAG TTCTTCTTCT CCTTCGACTC CAGCATCGTC AAAGAGCTCT CTGAAATAGT      2520

CCATGGCTTC GATACGGTCA GCTTCAGGTA GTTTCTTGAG ATAGAGTTCT AGCTGAGTCA      2580

GGTATTCAGT TCTTGTCATG GCGGATACTC CCTTCTATGA TGCCATTGAT GGTGTCTGTA      2640

TAGAGTGCCC ATTCATCTTT TAGGGTCAAG AGCTGCTCTA TACCACCGTT TGTCAAGGAG      2700

TAGTATTTGC GCATGCGACC TTGGAACTCT CTAGAATAGG TTGTCAGAAA GCTATTGCCT      2760

TCCAATTTTT TGAGAATGGG ATAGAGTGTG GATTCTTTGA TATTAGCGAT CAGCTTAATG      2820

GTTTGGCTAA TCTCATAACC ATAAGAATCA CCCTGCTCCA GTACAGCCAA GATGAGAAAT      2880

TCAATCAAGG CAGAGGATGT TGGAAAGTAC ATGGGAAACC TCCTTTTCTA ATGTGTAAGA      2940

TTTTTATATA TAATTTTTCT ACACATACAT TGTACATCTA AAAGAAAGCC CTGTCAAGAG      3000

AAATGTGTAA AATTTTTATA TATAAAAAAC TTCTAGCTAA AACTAGAAGT TTAAAGGATC      3060
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1129

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TTATCCGCTC TGTCCACTGT AAAGAGGGCC ACAGTCATCA GGATATCGAT GAGCAAGAGG      3120

GCAGCTACAG ATGGTACCCA AGAGTGGAAC AGGTCAAAAC TGTAACCAAA GAGGGTTGGC      3180

CCAAAGGCTG CTAGGATATA GCCTCCTGTT TGAGATAGGC CGGACAATTG GGCTGTCTTT      3240

TCAGGGGCGC TTGTCTTGAG TGAAAAGTTG ACCATGAGAT AAGGGAAGAG GGCACTGGTT      3300

GCGGTTCCGA TGAGGAGATG GATGGCAAGC CAGTAAATGA AATTATTGAT TGGGAAAAAG      3360

AGCATGGAAA TGCCGACCAC ACCAGCTAGT GAAACCAGAG TGAGCATGAG CTGACGGTTG      3420

CGAGTAGATA AACTGGTTGT CAGGCTTGGG ATGGTCATTG AAAAAGGAAT GCTAATCAGA      3480

GATAAGATAG AAGTCAGCAA GCCAGCTTCG TGACTGGATA GACCTGCATG GATAGACATG      3540

GTAGGTAACC AGGTCATGAC GGTGTAAAAG ATCAAGGATT GAAAACCTGA AAAGATAATA      3600

ATTGCCCAAA CCTGTTTATT ACGCATGACC TTTATTTGAC TTTTTTGTTT GGTTTGTGGA      3660

GCTAGTCTAT GATTATAGCG GTGATTTGGG AGCCAGACCA AAAAAGTTGC TAGACAGAGT      3720

AACGTGAGGA GAAGGATAAG TCCTTTCCAA GAACTGGCTT GTGTAATGGG CACAGCTAGA      3780

TAGGAA                                                                 3786
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(2) INFORMATION FOR SEQ ID NO: 183:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 3054 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear


    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 183:

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TCAGCTAAAA AACATTGCTA AATTGATTGA AGCTGGTGCT ACACATTCCG ATTCAACTTC       60

TCACACGGCG ACCACCAAGA ACAAGGTGAG CGTATGGCAA CTGTTAAACT TGCGGAAAAA      120

ATTGCAGGTA AAAAAGTTGG TTTCCTTCTT GATACAAAAG GACCTGAAAT CCGTACAGAA      180

TTGTTCGAAG GTGAAGCTAA AGAATATTCA TACAAAACTG GTGAAAAAAT TCGTGTTGCA      240

ACTAAACAAG GAATCAAATC AACTCGTGAA GTGATTGCGT TGAACGTTGC TGGTGCTCTT      300

GATATCTATG ATGATGTTGA AGTTGGTCGT CAAGTTTTGG TTGACGATGG TAAACTTGGT      360

CTTCGTGTGG TTGCTAAAGA TGATGCAACT CGTGAATTTG AAGTTGAAGT TGAAAACGAT      420

GGTATCATCG CTAAACAAAA AGGTGTGAAC ATCCCTAACA CTAAAATTCC TTTCCCAGCT      480

CTTGCTGAAC GCGATAACGA CGATATCCGT TTCGGTCTTG AACAAGGTAT CAACTTCATC      540

GCAATTTCAT TCGTACGTAC TGCAAAAGAT GTGAACGAAG TTCGTGCAAT CTGTGAAGAA      600
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                                      1130

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ACTGGAAACG GACATGTTCA ATTGTTCGCT AAAATCGAAA ACCAACAAGG TATCGATAAC      660

TTAGATGAAA TCATCGAAGC AGCTGATGGT ATTATGATTG CTCGTGGTGA TATGGGTATC      720

GAAGTACCGT TCGAAATGGT TCCAGTTTAT CAAAAAATGA TTATCAAGAA AGTCAATGCT      780

GCAGGTAAAG TTGTTATCAC TGCAACAAAC ATGCTTGAAA CAATGACTGA AAAACCACGT      840

GCAACTCGTT CAGAAGTATC AGATGTATTC AACGCTGTTA TCGACGGAAC TGACGCTACA      900

ATGTTGTCAG GCGAGTCTGC AAACGGTAAA TACCCACTCG AGTCAGTAAC TACAATGGCT      960

ACAATCGACA AGAACGCTCA AGCTCTTCTT AATGAATACG GACGTCTTGA TTCAGATTCA     ·1020

TTTGAGCGTA ACTCTAAGAC AGAAGTAATG GCTTCTGCTG TTAAAGATGC TACTAGCTCA     1080

ATGGATATCA AATTGGTTGT AACTCTTACT AAGACAGGTC ATACTGCACG TTTGATTTCT     1140

AAATACCGTC CAAATGCTGA CATCTTAGCA TTGACATTTG ACGAATTGAC AGAACGTGGC     1200

TTGATGTTGA ACTGGGGTGT TATCCCAATG TTGACAGATG CTCCATCTTC AACTGACGAT     1260

ATGTTCGAAA TCGCTGAACG TAAAGCGGTA GAAGCAGGTC TCGTTGAGTC AGGCGATGAT     1320

ATCGTTATCG TTGCTGGTGT GCCAGTAGGA GAAGCTGTTC GCACAAACAC AATGCGTATC     1380

CGCACAGTAC GTTAAGAAAA ATATAAAAAC CTATCATATC CAGCTTTAGA GCTTGTGTGA     1440

TAGGCTTTTT GTATAGAGGG TAAGAAATAG GCAAAACTTT CATAATGGAT TGATACTCTT     1500

CGAAAATCTC TTCAAACCAC GTCAGCGTCG CCTTACCGTA TATATGTTAC TgACTTCGTC     1560

AGTTCTATCT ACAACCTCAA AGCAGTGCTT TGAGCAACtG CGGCTAGCTT CCTAGTTTGC     1620

TCTTTGATTT TCATTGAGTA TGAAATAAGA TATGCACAAA TTGATTAGAA AGTCAAATGA     1680

ATTTCTACAA ATGTTTTAGC AATCGTAATG TACTTGTCTA GATTCGATCT GATATATTTT     1740

CGATTTAATG ATATGGTATT TAAAACCTCC AAAGTAGCTT ACTCCATTCT TTTACTTACG     1800

TGAGTGTAGA TGTTATTTAC TGTTTTAGCG TTTTTGTGTT CCACTCTAAC CATTATAGCA     1860

TTCTTCTCAG CTAGTGTACT AAGGAGTGTG TGCCTGAAAA TATGGGAACT AAGGGGCTGG     1920

TTTATCGGTT TCTCTAGTTT AGTATTTGCC TTTTGCAAAG TGATCTTAAA TGCCTTTCTC     1980

TAAATTTACA TATCACTATT GTTTAACAAA ATCTAATCTA TTTTAGGTCA CTTATTCTTT     2040

TTTTGAAATG TAGAATGAAC TTTTTCAAAG TTTTTCGAAT CTTTTAAAAT CTGTTTGCTT     2100

TATATCGCCA TTCTCCCCCC TTTTTTAATT CTCCCTATAT AGCCTGACAG CTTTCCCGAT     2160

GGTACGAÀTA TGGTTGCTTT CGTCTAGGTG GATGTCGGGG TATTCGGGAT TGAGTTTTTT     2220

TGAGGCAGCC TTGGCGGAGT TTCTTGACAT AGTTAGTGCC GTCTACTTGG AAGATGCCGA     2280

TGGTATTATA GTCAATCTGT GGGGTATTCT TGATAAATAG GTAGTCGCTG TTTCTTATCT     2340

TTGGCTCCAT GGACTTGCTG ACGACATAAG CGATTGGGTC GTAGTCGTCT GGGATAATGG     2400
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1131

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AAACTCCATA TCTAAATCGT TGTCCTGCAT CGAGCGGCTA CCTGCAGAGA TAAACTACCT    2460

AACACGAGAG TAAGTAGTCT GTCTGTAGTC GTCCAGTCTG ATGATTTTTA CGATACTTCG    2520

TTTTTCTGAT CATACAGTTG CCTCTCGGCA TAGGTCAGAA CTTTACCTTG TCTGGGTGGT    2580

TCCCGTTGGT CGTAGATAGA TTGGATATCG CTAGGAGAAT CCTTTTGAAC TGGAGGAAAG    2640

AGGGCATCGA TCAAGCTACT GAATACTTTA ACTAAGTCAA ATATAGTATT TTTCTTAGTA    2700

GACCTAACCC TTTTTTCATA ATTTCTAATG GTGTTTTTAC TTATACCTAT CTTAGTACCC    2760

AATTCTTATT GAGTCCAACC ATTACTAGTC TATATTGTTT TATAGTTGAT TGAGTTTGGA    2820

ATAGTACGCT GTAGCTGCTA AAACATTTCT AGAAATTAAT TTGACTTTCC TAATAGAGTT    2880

GTTCATATCT TATTTCAATC TATTATGTTT TTCACCTCTA ACAATCGCAA TCTCTTCTTT    2940

ATCCATGAAT GAAATCGCTT TCTATTTTTG TAAGTAAAGC ATAACACGAA ATCCACGAAA    3000

ATGAAAACCT TTGTTGTGTT TTCGTAAAAA ATTTGTTGAC AGAGCACGAA ACGC          3054
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(2) INFORMATION FOR SEQ ID NO: 184:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 1590 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear


    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 184:

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TGTGATTTTC yGAAAATTTG GTAAAATATA TCTTAATCAT TTTCAGGAGG ACAAAAATTT     60

GACAAGATAT CAGAATTTAG TAAATGGAAA ATGGAAATCA TCTGAACAAG AAATTACGAT    120

TTATTCACCA ATCAATCAAG AAGAATTGGG TACAGTTCCA GCCATGACTC AGACTGAAGC   ·180

TGATGAGGCT ATGCAAGCTG CGCGTGCAGC CCTGCCAGCA TGGCGAGCTT TATCAGCAGT    240

TGAACGTGCG GCTTATTTGC ATAAAACAGC AGCTATTTTA GAACGCGATA AGGAAGAAAT    300

TGGTACTATC CTTGCCAAAG AAGTAGCAAA AGGGATTAAA GCAGCAATTG GAGAAGTAGT    360

GCGTACAGCA GACTTGATTC GTTATGCTGC TGAGGAAGGT CTCCGTATCA CTGGACAAGC    420

AATGGAAGGT GGTGGTTTTG AGGCAACAAG TAAAAACAAA CTGGCTGTTG TCCGTCGTGA    480

ACCAGTTGGT ATCGTGCTAG CGATTGCTCC CTTTAATTAT CCAGTTAATT TATCTGCTTC    540

TAAAATTGCA CCTGCCTTGA TTGCAGGGAA TGTGGTCATG TTTAAGCCAC CAACACAAGG    600

TTCCATTTCT GGACTCTTGT TGGCTAAAGC ATTTGAAGAA GCAGGGATTC CGGCAGGTGT    660

TTTCAACACC ATTACAGGTC GTGGTTCAGA AATTGGGGAT TATATCATTG AGCACAAAGA    720
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1132

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AGTCAACTTC ATCAACTTTA CAGGTTCAAC TCCTATTGGA GAACGTATTG GTCGTTTAGC        780

TGGTATGCGT CCTATCATGT TGGAACTTGG TGGGAAAGAT GCAGCTCTTG TACTAGAAGA        840

TGCAGATTTG GAACATGCTG CCAAGCAAAT TGTTGCGGGA GCCTTTAGCT ACTCAGGACA        900

ACGTTGCACG GCCATTAAAC GTGTCATTGT TCTCGAAACT GTAGCAGATA AATTAGCTAC        960

TTTGCTTCAG GAAGAAGTTT CTAAATTAAC AGTTGGTGAT CCATTTGACA ATGCTGATAT       1020

TACACCTGTT ATTGACAATG CTTCAGCCGA CTTCATTTGG GGCTTGATTG AGGATGCACA       1080

AGAAAAAGAA GCTCAGGCTC TTACACCAAT CAAACGTGAG GGCAATCTTC TCTGGCCAGT       1140

GCTTTTTGAC CAAGTTACAA AAGATATGAA AGTGGCATGG GAAGAGCCAT TTGGTCCTGT       1200

TTTACCAATC ATTCGTGTGG CTAGTGTAGA GGAAGCTATT GCCTTTGCCA ACGAATCTGA       1260

ATTCGGCCTT CAATCATCAG TCTTTACAAA TGATTTCAAA AAAGCCTTTG AAATTGCTGA       1320

AAAACTTGAA GTAGGTACAG TCCACATTAA TAATAAAACC CAGCGTGGTC CAGATAATTT       1380

CCCATTCCTT GGTGTCAAAG GTTCTGGAGC TGGAGTGCAA GGAATTAAAT ATAGCATTGA       1440

AGCGATGACA AATGTCAAAT CCATTGTTTT TGATGTGAAA TAACGTGTAA AACCAGGAAA       1500

TTGTTTTCCT GGTTTTATTT TTTTGCTATA AAATAATAAT AATTATAGAA AAAATACGAA       1560

CTTTTTGGTA TTATAATAGA TTGAAACCGG                                        1590
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(2) INFORMATION FOR SEQ ID NO: 185:

  (i) SEQUENCE CHARACTERISTICS:
    (A) LENGTH: 4848 base pairs
    (B) TYPE: nucleic acid
    (C) STRANDEDNESS: double
    (D) TOPOLOGY: linear

  (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 185:

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CCTGCAGTTG TCAGACCTGT AATTTTCTTT TTATCTGTAA TAAGAATCGT TCCAGCGCCT         60

AGAAAACCCA CACCTGATAT AACTTGAGCT CCTAATCGTG TAGGATCTCC TGTCCCAAAT        120

TTATAAGATA CGTATTCATT CGTCATCATA ATCAAACATG CAGCTAGACA AACAATACTA        180

TAAGTTCGGA TGCCTGCAGG CTGGGATTTG CTCCCTCTCT CTAAACCAAT TATACTACCA        240

ATGACTACTG ATAAAACAAT CCTGACAACT ATTTCAATAT TTGATAACCC AAGACTAGTG        300

GCTGTCATGA TTATTTCCTT ACTTTACGCC CCGGTCTTTG TGTGAAGTAT AATACCGTTC        360

CAGAAATAAT CATCAGAACA ATTGTATAAA CAAATACCAG AGCTTGTGCA TTAGATGTTG        420

CTGTTTCATC ACCTGCAGAT CGAATCGTAA TACCTAATGG TTGAGCTAGG GGATGGTAAA        480

GGAATACAGA TAAGTCGAAG TCAGTTAATA AAGAGTTAAA GTTTAAAGCA ATAACAGAGA        540
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1133

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GAACAACCGG TAAAATAAAT GGAATGATAA CCTTCATCAT AGTATAAAAA GGTGAAGCAC        600

CCATACTTCT TGCTGCATCT TCCATCTCAT CATCAACACT AAATAAAATA GCACGTACCA        660

TTCTATAAGA AAATGGGATT TTTACAACTA TATATGCAAT AAGTAGAATT ACCAAACTAC        720

CTACCAAAAT CTGATTCAAG ACAAGAAATT GTGGCTGATT AAAAGTAAAT AATAAACTTA        780

CTGCTAAAAG TGTACTTGGT AGTAACCAAG GAAGTAGAGC ACCATATTCA AATAAGAAAT        840

CAAAACGAGA TTTATGTTTT CTGACAACAC GAGCAAATAC AACTGCGAGA ATTGTTGCTG        900

TTGTCGCAGC AATAATAGAA TAAATAAAGC TGACCAAGAA TGGAGAGAAT GCCGCACTAT        960

TACTAAAGAA TAAGCGATAA TTTTCTAAAG TAAAGTTTGA TAATGTTAAG TTACCTGTTT       1020

GAATTGCAAC TGGATCTGTA AATGAGTATA ATACTATAAA AATTAGTGGA AGCATGAAAA   .   1080

CTGTGAACAA TCCATATGCT ACAATGTGAG CAATGATATT CCAAGGCTTA GACGCAATTT       1140

TTTGTTTTTT AAGAGGCGCT TTAGTCTTAG AGATAGAAAT ATAATTTCCA CCTTTTTCTA       1200

TCTTATTCAT GATAGTAAGC AAAATTGTAG TTGCAATACC TAAAATAATT GCAAGTAGGG       1260

CAGCTAAATC ACGAGAATTC CCCATCCCTG CAAATGTAAT AATCATTGGA TTTATAGTTT       1320

GAAATTCTTT ACCACCAACA ATCATGGGTG CTGCTACTGC AGATAAACCA CTAAGAAAAA       1380

CCATAATAGT AAGTGCAAAT AGAGTTGGAA TTAAGGTTGG TAACACTACT TTTCGGAAAA       1440

CAGTAAATGG TTTTGCTCCC ATATTTCGAG CAGCCTCAAT AGTGTGATAG TCAACGCTTC       1500

GAATTGTATT TGTTAAAAAC AATGTATGAT TAGCAGTTCC TGAAAATGTC ATAATGAATA       1560

AGACTGCACC ATACCCAATA AACCAGTTAG GGTCTAAAGA AGGGATAACA TTTTGTAAAA       1620

ATTTTGTAAT CAATCCATAA GGACCATAGA CAAATTTATA TCCAGTCGCT AAAACCACTC       1680

CTCCATAAAT TAAAGAGGTC ATATAACCTA ATTTTAAAAT TTTAGCACCT TTAATATCAA       1740

AGTACTCTGT AAATAGAACA CAAAGAATAC CTACGACATT AACTGTAATA ATGAGTGAAA       1800

ATGCTAACTT AAAACTGTTC ATAATACTCT GAAGTGCCCT CTGAGATTTT AGAACACGAT       1860

GTACAGCATC AAGGGAAAAT TCTCCTCCTT TTACAAATAC ATTCACTACT AGATCAAAGT       1920

TTGGATAAAT AATAAATGTT ACTAAGAACC AGATTAACCC TAAACGAATA AGCCAATCTT       1980

TTAAATTTAA TTTATGACGC ATACTGCACC TCCTTAAAAT TGCAGAACGT CTGATGGTGT       2040

GATAAATAAT TCCACACTTT CTCCGACAGA TCTAATAGCA GCCTGACTAT CAATACTTGT       2100

TACATTAAGA ATCTGACTTT CAGAAACTTT TATTGTATAG TGAATTGTAA CTCCAGAAAA       2160

CTCAACATCA ATAATTGTCC CTTTTAGAAT AAAATCTTGT TCAGTTTCAC GATTGAATCG       2220

AACTTTCTCT AATCGAATGT ATCCTTTTTT ATCCTCTAAG AAAACGCTTG TATTTTTCAA       2280
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1134

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TAATACTTCG TGGACTGTTT CATCGGTCAA AACATTAATA TCTCCAATAA AATCACATAC    2340

AAATTCAGTT TGAGAATTAT GATAAATCTC TACTGGTGTA CCGACCTGTT CGATGTATCC    2400

ATTGTTAAAG ACTGCAATTC TATCAGATAA AGTCAAGGCT TCCTCTTGAT CATGAGTAAC    2460

ATATAAAGTA GTAATACCTA ACTCTTTTTG AAGTCTTTTC AACTCTTTTC TCAAATCTAC    2520

ACGTAATTTT GCGTCAAGGT TTGACAATGG TTCATCTAGA CAAAGAATTT TAGGTTCAAG    2580

AACCAGAGCA CGAGCCAATG CTACCCTTTG TTGTTGACCC CCAGATAATT CTGATACATT    2640

ACGCTGTAAC TGTTGATCAG AGATCTTAAT TTTTGCTGCC ACTGCTGATA CTTTAGCTTT    2700

AATAACATCT GGAGCTACCT TCTTAACTTT TAAACCAAAT GCAATATTAT CAAAAACAGT    2760

CATAGTTGGA AATAGCGCAT AAGATTGAAA TACAATACCA ATTCCACGCT TTTCAGGTTC    2820

CAAATGAGTG ACATCTGTTC CATTAACTTC AATACTTCCT GATGATGGAT CTAGAAAACC    2880

TACCAATGCT CTCAAAGTAG TTGATTTACC ACATCCTGAA GGCCCAAGAA ATGTAAAAAA    2940

TTCCCCTTCA TGTATATCTA AATTCAGATT ATCAATTGCA ACAAAATCAC CATATTTAAT    3000

TTGAATATTA TCAAATTTAA TCATCTCACT AACTCCCTCT ATTACTAAAC CAAAAGCCTC    3060

TCTTTATTTC TTCCATAAAT TTAGAAATAA TAGAGAGACT TGGACATAAA AATTAACTCT    3120

TATTTCTTAT TGTACGTATT CTAATTCAGC TTTTTCTACC CATTCATCCA AATGCTTTCC    3180

AACAGCTTCC CAGTCAATAT TTTGTGGTTT CACTTGATCA ACAAATTTCT TCGTATCTTC    3240

AGGTAGATCT TTGAGGGCAT CTTTATTTGC AGGAATAGAT CCAAAGTTCT TACTATATTC    3300

TACTTGAATT TCTGATTGAC CAAACCAATC AATAAATTCT TTAGCTAACG CTTGTTTTTT    3360

ACTAGTGCTT AAAACCATAG TTTGTTCAGT TACAAATGGT ACACCAATCT CAGGAGTCAT    3420

AACTTTGAAA ACAACATTTT GTTCTTTTTG TCCAACTAAT GCACCAGAAC CCCACATCAT    3480

TCCATATTGT ATTGGATCTT CTTTGTCTAA CATCTTAACA ATTGAACTTT CTCCCTTTTG    3540

AAGAGTGTAT GCATTTTTCA AATATTCTTT TGCTACTTCC CAACCTTTTT CGGAAACACC    3600

TAATTCACCT TTATCATCAA GGTATCGAAC TAAGATACTT GCTAGAATTG CCCGTCCTGT    3660

ACCTCCTTGA AGACCAGAAA TTGAATATTT ACCTTTATAC TTACTACCTA ATTCAGTCCA    3720

ATCTTTAGGC ATTTCTTTTA CATCAGGCGC CCCAATTAAA ACTAATGGTT GAACAATCAC    3780

AGGATTATAA TAATTATCTT TATCTGATAA AGATTGATCA ATTTTATCTA ACCATTTAGG    3840

CTTGTACTGT ACTAGTAATT TTTGATCTCT AATTTTATTT GAATCAACAG CACCAATTCC    3900

AAATACCATA TCTGCAACTG CATTATTCTT CTCAGCAATA ACACGGTCTG CTAATTGAGC    3960

GCCAGCGATA TCAACCATTT TTATATTAAA ACCAGCTTCT TTTGCTTTAG CAGTTAACCA    4020

ATCACCACGA CCATTTGAGA CTGAGTTCGA ATAGATAACT AATTCTTGAC TTTTATCAGC    4080
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1135

TTTTTCTTCA GATGAAGAAG CAGTCGTAGA ATTTGAACCT CCAGAGCAAG CAGCAAGTGT        4140

AGTAAgAGCA ACTCCCGTTG CAAGTACAGT AGACCAAACT TTCATTTTTT TCATGATAAG        4200

TTCTCCTTTT TTATTATTTT ATTTAAATTT TTCGTGATAT GGAACAAATT GTCTCATATC        4260

TTCAAATACA GTATAGTCAA TACGGTTTAC AGTAATAGTT GGAATCTTCT CTAATAAAAT        4320

TTCAGTTAAT TCTGCTCTGA CTTTAGTAAA CTCTTCTTCC TCCTCTTCGG TTAGAGGAAT        4380

CCGAAGATAC CCAATTGAAA TATGGAATTG ATATCTATCA TGATTAGGGA AACAAACACC        4440

TGCTTTTTCT GAGACATAAG TACGAATTTC TTCTAATCTC TTTGCAGAAG CTTCATCTGC        4500

AGGTTCAACT AGTATGTTTT GTTTTCCCAT TTCAGTTATA CGCATATGAA TTTCTTCATC        4560

CAACAATGGA AAAATTTCAA GTTGTTTAGC AAAGTAATCA TGTATTTCCT GTAAAGGTGT        4620

ATCTAGAGGA AGATTACTGC TCCAAAACTC gtTCACGATT TTCATGGCAC AACAATTCAA        4680

TTACAGTCAT GTGAATAGAA TTCCTTGGAG TTAAAGTAAA CTTATCGATA AATGGTAATT        4740

CTCTATAACG TGATTGAATA ATATCAACAA CTTCCATCAA ATCTTGTTTA GTATAAAGAT        4800

TTGCTACAAC TGTATTCCCA GGGAAATGAT TAAATTCCCC ATTCTCGG               4848

(2) INFORMATION FOR SEQ ID NO: 186:

        (i) SEQUENCE CHARACTERISTICS:
            (A) LENGTH: 3763 base pairs
            (B) TYPE: nucleic acid
            (C) STRANDEDNESS: double
            (D) TOPOLOGY: linear


        (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 186:

GTTATAAGCA ACACCTTCTT GCTTGCCATA AGTTGTGAAA TGGGTAGAAT CGATATCTAC        60

AATGAGTTGG TTTAGCTGGT GAAACTGTAA AAAGAATTCG ACCAATTCAA GGTTGAGGCA        120

TCGCAAACTA TGGACTGTTT CCTCGTCAGT TCTGGAAAGA AAACGGGATA AGGTTGGCTG        180

TGAAGCAAGC TGCCCTCCTT CCAATAATTT TGGAAAGTAG GCATCAGCTG ACAATTCTTT        240

ACAAGCATAG TCCGTTCCAT AACCTGTTAA CAGTTGAAAG AGGAACTGGA CAAGGATATC        300

TGAATCCGAA TAACGACAGT AGCGGCGTTG GTCATTCGTT ACTAAATACT TAGAAATCCG        360

CTCTTTTAGT TTCAACTGGG AAAAAAGTTC CTGAAAAAAG ATAAGACCAC CATACTGGGT        420

TAAATGACCT CCATCGAAAG ATAGTTGGTA AAAAGACTTG TTTTGGAAGT GATGATTTGG        480

TAAACTGTTC ATGTGAGTTT CCTTTCTTTT TGTGTTTTTT TCTACACTTA TACCATAAAG        540

GGGAAACTCT TTTTTGTCTA GTAAAAAACA CCCATTGGGT GAAAAAAGAA ACCATCCAGG        600

1136

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ATCTAAGCTA AGGCAAGGAT TCTGGATGGT TTTTAGATTT GGGGTGAATA ATTGGGGATT      660

TAGGAGAAAT GATGGTATCT TCCAAATCAA AATCAACTTC ACTCCATAGT CTCAACTGAT      720

TGATTTTCCC ATCTTGATAG GTCACATCCT TGTCAAGGAT AAACTGAGTC AACACCTCAT      780

GTTGACCTTG ACACCTGATG TCATCTACCA AGAGCCAGAC ATCCTCTACC AACATGAGGA      840

TTTTTCTCCT GTGAAGATAA GGCAAATCAG GTTCTGCTGA CCAATAAGCC CCCTCAATAT      900

AATGCACTCC CTCCCTTTCT TTATGGTGAC AAAACAGGGA GTGAGGATAG TATTCATATT      960

CCCAGGATCC CGTGATTCTT TCCGGAGCTT TCCCATCTAC AATGCAGGTC GAATGACTCC     1020

AAGCACTCTT TAAAGAGATAA CGTTCATATA TCTCCCGATA AGAATAACGC CCAGCATCTA     1080

TGAAAATAGG TTGGCCTTGA TACTGTAAGC AAAAACTATT CTCGTCACTA TGACTATGGG     1140

CACTTCCTAG CGGACCATTT TTGAAAAATA GATAACGATG TTCATCCTTA ATGCAGACAT     1200

GTCCAGAGTC TTCAAAGATC ATGGACTTAG GCTGCCAAGC TCTCTTTTCA AATTCCTGCA     1260

GTCGCTTGAC CTTTTCTCGC CCCAGGAACA AGAGGCTAAG CAAATCAACT TTAACATCCA     1320

GACCGTTAAG AAGGTCTTCC TGGTTCAAAA CCACAGCAGA CAGGCTCAAA ATTTCTGTCG     1380

TTTCTGTAGA ATCGCTATCA CCAAAAGCCA AAGTCCGTCC ATCTAAGCCT GTCATCATTT     1440

GAATATAGGT CGCCATCTTT TCCAGCAACT CTTGGTAACT ATCTTGCAAG TCTGGAAGCA     1500

AGAGACACAA ATCCAGCAAG GCTTTATAAA CCTCTACATG ATAGAGAATC GACTGTTCAA     1560

ACTGGCTTCC ATCTCCTAAA ATCTGTGTCT CAATTTGCTG TTTCAACTCC TCTGAAGCAA     1620

AATGGTAAGC TTCTTCTAGA TCCATCTTAT CTGAAAAGAA ATGATAGATA GCAAGCATCG     1680

GAATTGTTTG TAAAATCCCC CAGTTACTAA GGGTGTACTT GGCGCGATAG TAGCTTTTCA     1740

TAAAGTCAAT CTGCTTTTCT AGACTGACCA AAATTTTCTC TAGTTCTTTC TCCTCTAGCA     1800

AGTCAAATTT CAAGAGGAGC AAGAGTAGTT TCAACCAAGT AAAGGAACGA ATACCCGTAT     1860

CCAAGGTTCT AGTCATCAAG GATTGAGGAG AAAATTCTCT CACCTGCTCA ATCCAATCAA     1920

ATAGAAAGAA CTTGCACTTT TGAATATAGT CCTTATCTCC TTCTACCAGA TACCCTATCA     1980

TAAACTGCAA GAGATATTCT TGTCGATTGA GCATATAAGA CCATTCTGGA TCATCTTCAA     2040

ATACTTGATC CCATACCATC GGCTGGATTT GATGGATTTT TGAACAAGGC TCCATATCCC     2100

AAGGACTATC AAACATAAAA CGATTGTCCA TCAAGCGTTC AAGGGAACTC TTGACTTTCT     2160

CATAGTCTTT TGAACAGTGC GACAAGATAT AATCACGACA TTGATTTCCA TCGACTCTTT     2220

CAAAAAATTG TCTTCTTTCT TCTTTCATTA TCTATTACCA GAAAAAGAAC TACTTAAAAA     2280

GCAGTTCTTT TGTCTTTCCC ATTACACTTT CCTTTTCTAC ATGGATGACC ACACCTTTTG     2340

CAATCTGCAA GGAGACCAAG TCATCTTGGA TAGAAATGAT TTTTCCATGA ATTCCAGACA     2400
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1137

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ATAACAACAC TTCATCACCA AATGTTAAAG AAGCTAAATA CTCTTGTCGT TGCTCCATCT        2460

GTTTGCGAAG CAACTTTTGC TGACGAATAG AATGAAAGCT TGACAGTAAA AGGGGACTCA        2520

CTGCCAAGAC AATCACTATT CCATAAAACA ATGTTGTATC CATTAAGCTA TAATCTTAAG        2580

CCAGCTTCCG ATAATTCCGA TGATAACTGT TAAAATAACG AGTTTATATG TTGTCCATTT        2640

CTTTTCTTTG ATCAAGTAGT AAACTAAAAG TGTAAATAGG GCTGGTAGAA GAGCTGGAGC        2700

AACCTTATCA AGCATTCCCT GAATACTTAC GATACTTTGT TTAGCGTCTG CTTTAACTTC        2760

CCCTGCAGCA AAGGTAATCG GCACCATAAT CTTAACAGAT GTCGCTGCCA AACCAGCAAT        2820

TACGLTACAC CGATAATATT GGCAATACGA GAAATCGTTG CCATCTGTTC GCTTAGTTTA        2880

TCAATCACAG TTGTTCCTAG TTTGTATCCA TACAGACCAG TTGACAATTT AATCGCTGTT        2940

AAAATCGTAT TCATCGCAAG GAAGAACAAG ATTGGACCGA CAACCAAGCC TTCTTGAGCA        3000

AACGAAGCTG CGATGGTTGA GAACAATGGA GCTAAACAGA ATTGAGAAAG AGAATCCCCA        3060

ATACCTGCCA ATGGTCCCAT CAAGGCCATC TTGATGCTAC GTGTTTCTTT TGCCGGACGG        3120

CCATTTTCCA ACATTACAAG ATGCAAGCTG GTAATAAAAG GCAGGAAGTG TGGGTTGGTA        3180

TTATAGAATT CACAGTTTTC TTCCAAGGCT TGGTAGAAAC CTTCCTGATC CTCTCCATAG        3240

TGTTTTTTCA AAGCAGGATA CATCACATTG GCATATCCCA ACCCTTGATA GTTACTATAG        3300

TTAAATCCAT TTTGACAAAA GAATGCCCGC AAAGACGTTT TAAGATAATC ACGTTTTGTT        3360

AATTTGTTAG ATCCAGTCAT CGTGTGCTTC CTCCTCTACC ACATGATCCG CTGTTTTTGG        3420

CTTGTTATAA AATTCAATCA AAGCAAAGAT AGTACCTACA ATTGCAATAC CAATTGTTGG        3480

GATGTTTAGA TAAGCTGCAC AAACATATCC CAACAAGACA AAGGGAATCA ACTCTTTCTT        3540

AGCCATCACT GACAAGATCA TCGCAAAACC GATAGCTGGG AGCATTTTAC CAGCAACTGT        3600

CAAACCTGTA AGTAATACCG GTGGAATGTA GTCTACGAGT TTCAACAAGG TATCCATTGA        3660

AAGGGCACCA AGCAACCCAA GGTAAATCCA ATAAAGGCAA ACAACCAAAT TGTTGCATTT        3720

AGAGTGAACT TAAATTTCTT CAAATTATGG TTTTTCAAGT GCT                          3763
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(2) INFORMATION FOR SEQ ID NO: 187:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 5053 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear


    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 187:

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                              1138
CAATCTCTGA GTATGTGCGG TCAATACTAw CAAAGGGAAT yCCTGACGTC AAGTAATGTT      60

CAATTGGmCT ATAGGTAATG GCAACCACTC CATCAACTTT ATTATGACGC AACATCTCCA     120

GATAGTCTTG CTCTCTATTT GTACCATTGA TAGAACATAA GAGTAATTTG TTATTTCTCT     180

TATAGACTTC ATTTTCCACA TGCATAGCAA ATTCTGAAAA GAAGGGATGC CAGATACTTG     240

GTACAATGAT TGCAATCGTT TCTGTTCGAT TTTTTTTCAT TCCTCTAGCG TAGTAATCTG     300

GAATGTAATT CAAAGTTTTA ATCGCTTGTT CCACTTTTTT CAAAGTTACT TCTTTAATGC     360

CTTTTTCTTT ATTAATTACA CGTGAAACAG TTCCAACACT AACTCCTGCT TCTAAAGCAA     420

CATCTTTCAT GGTAATTGAT TTTCTTTGTT CTACCATATT ATCACCTCCT TTCAATATAT     480

AGTATCATGC AAATGCTTTT TAAGCAACTA TTTCTCAATC ATTTTTGGCC AGATCATTTA     540

TCCCATCATG AATAAAATCA CTCCAATTAG CTTTTGAAAA TACTTCAATT TTCATGTGTA     600

AACATCTACA TAAAACAGGA AAAGCCTTGG TTTCATGGCT TTTTTCGTAT CTTCTATAAA     660

AAAAGCAAGA GTTTTAGATG GCTATAAATC TAGATGTACA TTTTGCTTAA ATGATTGAAG     720

GTCTTTTCTT AACAAAAACA CCCCCAAAAT TAGACTTTTT CTGTCTAACT TTTGAGGTAC     780

AGTTCAAACG CGAAATAGCG TTTTTTTGTT ATTTTTGGTT ACTCATCTAA TCGAATAAAC     840

ATCATGGCAT TTAACAAGTA TATGAGTGAG ACCGTGTTTA TATTATTTGA ATAGATGAGT     900

CTCTTATTTT CAATAGGAGG AATAATAAAA TTAGAAATAA TGATATCATA AGGTGAATCT     960

TCTAAAGATT CCTTTGATAA TTCTAATTCA GTCCAAACTT CCAGTTCAAA ATTATTGCTA    1020

CAATAATAAG AAAGTGTCTC TGCAACGAAT TTTGCATGAT ACTGATCAAA ATTACTCATA    1080

ACTAAAACCT TTAGTTTAGG CTGATTTTGT AGCAAATTAA TCACCAAATG TTTGGTATGA    1140

GTGATGAAGG TATAAGATAG ATGATTTACC ATCATTGAAC TAGAACAAAC CTCAAGAGTC    1200

TCTAAATAGT GAGAAAGCTC TTTTTTTATA TCTGAAACAA ATTTTGGAAA AATATTTTGA    1260

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CGATACAGAT GTGCGGTATT ATGCAGATGC CAAATCAGAT TATCCTTATT CTCCATTTCA    1380

ATCTGATACT TGACTGAAAT CTGATCAATA AAATCACTCA ATAGATGGTA AGATTTTTCA    1440

ACATAACTAT CCTTTTTTAC GCATTTCATA AAGAGACTTT CATCTATGAA AAACATTTTT    1500

TGAAAGTAAG ACACAAATAA TTGGCAAACA ACTTCTTCAT CTAAAGAGAT ATTGTATTCT    1560

GATTCAAAAC TCTGAGCAAC ACCTTCTATT CCTTCTGCCT GCATTAAAAA ATCCAAACTT    1620

TGGTCGTTAA AAGAATCTTT ATCTACTTCC ATAAAATGAC CAAACTTTAT TCTATATAGG    1680

TTCGTAACTA GGAGCAACTT TAGCATTCTA TGCGTTGACA AATTCATTGG AAAGCTTGTT    1740

TCCTTATAAA CCAATTCTAA CAATTGAGAT AGTGGCTCTG ATGAAAAATT TTCAAATGGC    1800
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1139

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CATTCTAGGA AATAATATTT TTCTGAAAAA TATTGTGCAA AAAAGTAACG AATGTCTCTC    1860

TCATTTCCAA TGATTTGAAC AGGGGTCAGA CTAACTTCAA ATTGAAATTG CCTTTTAATC    1920

ACTTTATTGA TTTGGCTAAT AATACGATAG AGCGAAGATG AACTGATATA AAATTCTTTA    1980

CAAATACTCT CAGCTTGACA ACCTTCATTA AAGAAGATGA ATTCTAAAAT CGAAAAATGA    2040

GTTGAATGTT TAAAGAAATG ATGGTAAACC ATTTCAATAT CACTATCATC GGTATTAATA    2100

ATGCGTATAC CATTAGTAGA AGAATGAAAA ATCAAGTCAG GAAAAGCAGA TTTAACATGG    2160

GATAGATCAT CTTTGACTGC ACGTTCTGTA CAATTTAATA ACTCTGCTAG TTCAGAACGA    2220

TGAAACCAAC GTTTATGTTC AAATAATAAT TCTAATAATT CTAATTGCCT ATGACTTTTT    2280

TTAGATAATA AATCTCTCAT GAATATCTTT CTCTCTTTAT AAATTATCGG ATTAAACCTC    2340

TTGCAATTAT ACCACAAAGA ATAGGTATAG CATGATATAA CGACTTTTCC TAAAATCTTT    2400

TATTTCGTAT AATAACACTA CGGAGACAAT ATATAAACAA TTTTCTTATT TTACCGTCTA    2460

TTGAGGGCGT GAATACGAAA TCAAATTCAA GTCTAAAGAT TATATTTTTA ATTTTAAAAA    2520

TTATATAATA GCAACAATTA AAGAATTTGA TTTTTTAAAA TTATATAATA ATAACAATCG    2580

AAATAATTGA CTTTTCTATA TTAAAGTTAT ATAATAGTAA TAATCAAAGA AATTGATTTT    2640

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CAAAGAAAAT ATGTTTCATT ATTTTCTGTA TTTTAATCTT GACAATTTTC CTTCCTGTTT    3060

TGATAGATTA TCATCAAGTT AGTGATCTAG GTATTCATCT ACTTAGCTGG AGACAGAACT    3120

CCGTAGTTGA ATTCTATCTT GCTAGATATG TCTTTTGGGG GACAGTGGTT CTATCAACTT    3180

TAGTTTTATT ATCCATTTTA GTTGTGATGT TTTATCCTAA ACGTTACTTG GAAATCCAAC    3240

TTGAAACTAA AAACGATACA TTAAAATTAA AGAATTCGGC AATCGAAGGT TTTGTTAGAA    3300

GTTTGGTGAG TGATCATAGA TTGATCAAGA ACCCAACTGT TCATGTAAAT TTACGAAAAA    3360

ATAAATGTTT CGTTCATGTA GAAGGTAAAA TTCTTCCTTC AGACAACATC GCTGACAGAT    3420

GCCAAATAAT TCAAAATGAA ATAACTAATG GATTGAAGCA GTTTTTTGGT ATTGAGCGTC    3480

AAGTAAAACT TGAAGTTGCA GTAAAAAATT ACCAACCAAA ACCTCAAAAC AAAAAGACTG    3540
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                                        1140
TTAGTCGTGT GAAGTAAGGA AGTAAAAAAT GGAATGGCTT AAACAATATC GATATCCAAT      3600

TATCGCTGGT CTCATAGGCG TATTTCTGGC TTGTTTGATT GTCTCCTTTG GCTTCTTCAA      3660

AACAATATTT GTATTGATTT TAGGAGCACT GGGAGTTGCA GCTGGATTAT ATATCGAAAA      3720

AAACTATATA GATAAATAAA AAAATAAAAA TTACTAATTT AATTAAAGGA GTTTCATATG      3780

TCAAACGAAA AAAACACAAA CACTAACGTA GAAAAGAAAG ATGCTACTGT TGTAGCTCAC      3840

GAAATCAAAG GGGAACTTAC TTACGAAGAT AAAGTTATCC AAAAAATCAT TGGTCTTTCA      3900

CTAGAAAACG TTTCAGGTCT TTTGGGAATC GATGGTGGTT TCTTCTCAAA TCTTAAAGAA      3960

AAAATCGTTA ACAGCGATGA CGTAACAAGT GGTGTTAACG TAGAAGTTGG TAAAACACAA      4020

GTTGCAGTTG ACTTAAACGT TATTGTTGAG TACCAAAAAA ATGTTCCAGC TTTATATTCA      4080

GAAATCAGAG AAATCGTATC TTCAGAAGTT GCTAAAATGA CTGACTTGGA AATTGTTGAA      4140

ATCAACGTAA ACGTTGTCGA CATCAAAACT AAAGAACAGC ATGAAGCAGA CTCAGTAAGC      4200

CTTCAAGATC GCGTATCTGA CGTTGCTGAA TCAACAGGAG AATTCACTTC AGAACAATTC      4260

GAAAAAGCTA AATCTGGTCT TGGATCTGGT TTCTCAACTG TTCAAGAAAA AGTTAGCGAA      4320

GGTGTAGAAG CTGTTAAAGG TGCAGCAAAT GGTGTAGTAT CTCACGAAAA CACTCGTGTA      4380

AACTAAGATA AAATAAATAT AACAGGAGAA ATTATCATGT CAGTAGAAGA AAAATTAAAT      4440

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AAAGAAGGTG CAGCTGAAAA AGTTGTTTCT AAAGTAAAAG AAGTTGCCGA AGACGCTAAA      4560

GACGCTGTAG AAGGTGCTGT AGAAGGTGTT AAAAACATGT TGAGTGGCGA CGATAAATAA      4620

GGTTAAAAGT TACTTTATCT TTTTAGTAAT ATTAGTCAAA AGAGTCTGAG TCAAGATGAT      4680

TCTCAGAAAA CAAAAAGCTA GAGATTCCCA ATTGCGGAAC TCTAGCTTTT TAATTTTGCC      4740

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TCACTTGACG CTTACCTCTC AGATGACATC TCTTATAACC CAAACAAACC TTTATCTGCC      4860

CAAAGACAGA TTTCATATCA ATCTTACGTT TAGCGAAAAT TTGTCTACCC TTGGAAGATA      4920

AAAGTGCCTG ATATTCTTTA GTTTTTAAAC ACTGGTAACG TTCATTCATA TACAGTCTCT      4980

TTTGAGGGGC TGATTCAGGT TCATAATCGC AGTCAACATT GATTTCAAGG CTGTTTGCTT      5040

TCTATCTCCC CGG                                                       5053
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(2) INFORMATION FOR SEQ ID NO: 188:

  (i) SEQUENCE CHARACTERISTICS:
    (A) LENGTH: 6492 base pairs
    (B) TYPE: nucleic acid
    (C) STRANDEDNESS: double
    (D) TOPOLOGY: linear

1141

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 188:

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AATTCTCTTT TTTCCAACAA AATGTATGAC CTGCACTTGA ATACTTCTCA TTGTTTGTAC        60

ATTCATCTAC TTTCATATAA TCTTTTACAA AATCATAATA TGACATAACA CACTATCCCT       120

TTTAGACAAT ATTCCAATTA GCCTTATTAA TTCAAAACTA TTGTATTAGT AATTATAACA       180

GATGTATAAT AGAAAAGCAA TGATAGATAT TATCAATTAA GCGAATTTAT ATCTAAAAGG       240

GATATTAAAG AAAGGAGATA TGCTTATGAA GATTTACAAA AAACTATTTG CTTATGTCCA       300

AGATAAGAAA TATCTTGGGG TTTTGGCCAT AATTTTTTCT GCTATATCTG CTGCACTTAC       360

AGTATATGGA TATTATTTAA TCTACAAATT TCTAGATAAG TTAATAATTA ATTCAAACTT       420

ATCCGGTGCA GAGAGTATAG CATTAAAATC TGTTATTACA CTAACAAGTG GAGCGATATT       480

TTATTTTGTC TCAGGAATGT TTTCACATAT CTTGGGATTC AGGCTTGAAA CAAATTTAAG       540

AAAAAGGGaA TCGATGGTCT GGAAAAAGCA AGTTTTAGGT TCTTTGACTT AAATCCATCT       600

GGTCAAATAA GAAAGATTAT AGATGaCAAT GCTGCACAAA CTCATCAGGT GGTAGCACAC       660

ATGATTCCCG ATAGTTCTCA GGCAATAATC ACACCCGTAC TTGTACTTGC ACTTGGCTTT       720

ATAGTAAGTA TAAGAGTTGG CATAATTTTG CTTGCTCTTA CTATAATTGG TGGCTTAATT       780

TTAGGGGCAA TGATGGGCGA GCAAGAATTT ATGAAGATAT ACCAAGAATC CCTATCTAAA       840

CTAAGTGCTG AAACTGTTGA GTACGTGAGA GGAATGCAAG TTGTAAAAAT ATTTAAAGCA       900

AATGTAGAGT CTTTTAAAAG CTTTTATAAG GCGATAAAAG ATTACTCAAA GTATGCTTAT       960

GATTATTCCC TATCTTGTAA AAGGCCTTAT GTTTTGTATC AATGGTTATT TTTTGGACTG      1020

ATTGCAATTT TAATTATTCC TATAGTTTAT TTTATGACTA GCTTAGCTAG CGCAAAGGTG      1080

ATTTTACTtG AGCTTATCAT GaTTTTATTT TTATCAGGAG TTCTCTTTGT TTCATTCATG      1140

AGAATGATGT GtACTCCATG TATATTTCTC AAGGAAATTA TGCAGTAGAT ACTTTAGAGG      1200

CGCTTTACGA AGATATGCAA AAAGACAAAT TAGTGCATGG TAATGTCAAT AATTTTAAAA      1260

ACTATAATAT AGAATTTGAG AATGTTAGCT TTGCTTATAA TGATAAAGCT GTCATTGAAA      1320

ATTTATCCTT TAATTTAGAA GAAGGAAAGT CCTACGCACT TGTCGGTTCA TCTGGATCAG      1380

GCAAATCAAC AGTAGCAAAA CTTATATCAG GTTTTTACAA TGTTAATAAA GGAAGCATAA      1440

AGATAGGCGG GATAGCAATA AGTGAATATT CTGACGAAGC CTTAATTAAA GCCATTTCCT      1500

TTGTTTTTCA AGATTCAAAA TTATTCAAGA AGAGCATTTA TGATAATGTA GCGTTAGCTA      1560

ATAAAGATGC GACGAAAGAT GACGTTATGA GAGCCTTAAA ATTAGCAGGA TGCGATTTAA      1620
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1142

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TATTAGACAA ATTCCCAGAA AGAGAAAATA CAATCATAGG CTCAAAAGGT GTTTATTTAT    1680

CCGGTGGAGA AAAACAAAGA ATTGCAATTG CTAGAGCAAT TTTAAAGGAT TCCAAAATTA    1740

TTATTATGGA TGAAGCATCA GCATCTATTG ACCCAGATAA CGAGTTTGAA TTGCAAAAAG    1800

CTTTTAAAAA TCTTATGAAG GATAAAACAG TTATCATGAT TGCACACAGG CTATCTACAA    1860

TTAAAGACCT TGATGAAATT ATTGTCATGG ATAGTGGAAA AATTATAGAA AGAGGGTCTG    1920

ACAAAGAATT AATGTCAAAA GATACAAGGT ATAAGAGCCT GCAAGAGATG TTTAACAGTG    1980

CGAATGAATG GAGGGTTTCA AATGAAAGAG TTTTATAAAA AAAGATTTGC TCTTACAGAT    2040

GGAGGAGCAA GAAATTTAAG TAAAGCAACA CTGGCTTCAT TTTTCGTTTA TTGTATAAAC    2100

ATGCTTCCTG CCATATTACT TATGATTTTT GCTCAGGAAG TTTTGGAAAA TATGGGCAAA    2160

AGCAATGGCT TTTATATAGT ATTCTCAGTT TTGATTTTGA TAGCAATGTA TATTTTGCTT    2220

TCTATCGAAT ACGATAAATT ATATAACACA ACCTATCAAG AAAGTGCAGA TTTAAGAATA    2280

AGGACAGCGG AGAATTTATC AAAATTACCT CTATCTTACT TTTCTAAACA TGACATTTCC    2340

GACATTTCAC AAACAATCAT GGCTGATATT GAAGGCATAG AGCATGCAAT GAGCCACTCA    2400

ATACCAAAGG TGGGCGGCAT GGTACTGTTT TTCCCATTAA TATCTGTAAT GATGCTAGCG    2460

GGCAATGTCA AGATGGGTTT AGCTGTAATT ATTCCATCTA TTTTAAGCTT TATATTTATA    2520

CCTTTATCTA AAAAATATCA GGTTAATGGA CAGAATAGAT ATTATGATGT CTTAAGAAAA    2580

AACTCAGAAA GCTTTCAAGA AAATATCGAA ATGCAAATGG AGATTAAAGC ATATAATTTA    2640

TCGAAGGATA TTAAAGATGA CTTATATAAA AAAATGGAAG ATAGTGAGAA AGTACACTTA    2700

AAGGCGGAAG TAACTACAAT TTTAACTTTG TCTATATCTT CAATATTTAG CTTTATATCT    2760

CTTGCTGTTG TGATATTTGT CGGCGTAAAT CTAATTATTA ATAAAGAGAT AAATTCTCTC    2820

TACCTTATAG GATATTTACT AGCTGCTATG AAGATAACAG ACTCTTTAGA TGCATCTAAA    2880

GAGGGCTTGA TGGAAATATT TTATTTATCG CCCAAAATAG AAAGATTAAA AGAAATTCAA    2940

AATCAAGATT TACAAGAAGG CGATGACTAT AGCTTAAAAA AATTTGATAT TGATCTAAAA    3000

GATGTTGAGT TTGCCTACAA TAAAGACGCA AAAGTTTTAA ATGGTGTAAG TTTTAAAGCT    3060

AAGCAGGGAG AGGTCACTGC TTTGGTAGGT GCAAGTGGCT GCGGTAAAAC AACTATCTTG    3120

AAACTTATAT CAAGACTTTA TGATTATGAC AAGGGACAAA TCTTAATCGA TGGCAAAGAT    3180

ATAAAGGAAA TATCAACAGA ATCCCTTTTT GATAAGGTGT CTATTGTTTT CCAAGATGTG    3240

GTTCTCTTTA ATCAAAGCGT TATGGAAAAT ATTAGAATCG GTAAGCAAGA TGCAAGTGAC    3300

GAAGAGGTTA AAGAGCAGC AAAACTTGCA AATTGCACAG ATTTTATAGA AAAAATGGAT    3360

AAAGGTTTCG ATACAGTTAT TGGTGAAAAC GGAGCTGAGC TATCAGGAGG AGAAAGACAA    3420
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1143

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AGATTATCAA TAGCCAGAGC CTTCTTAAAA GATGCGCCGA TATTGATCTT AGATGAGATA    3480

ACAGCAAGCC TTGATGTTAA CAACGAGAAA AAGATTCAAG AGTCTTTAAA TAATTTAGTT    3540

AAAGATAAAA CTGTTGTAAT CATTTCACAT AGAATGAAAT CCATAGAAAA TGCAGACAAG    3600

ATAGTAGTTC TTCAAAACGG AAGAGTAGAA AGCGAAGGTA AGCATGAAGA GCTTTTACAA    3660

AAATCAAAAA TTTACAAAAA TTTAATAGAA AAGACAAAAA TGGCAGAAGA ATTTATTTAT    3720

TAGGAGGACT ACAATGGATA ATAAAAAATT AAAAGTAAAA GATTTAGTAA GCATCGGTGT    3780

TTTTGGCGTA ATTTATTTTG CCTTCATGTT TGGAGTTGGT ATGATGGGCT TGATTCCAAT    3840

ATTGTTCTTA ATATACCCGA CAGTATTAGC CATAGTTGCA GGAACTGTTG TTATGTTATT    3900

TATGGCTAAG GTTCAAAAGC CATGGGCACT ATTTATATTT GGTATGATAT CACCCACTTGT   3960

GATGTTTGCA GCTGGTCATA CCTACGTAGT TGTGGTTTTA TCACTTATAG TAATGATAAT    4020

AGCAGAATTA ATTAGAAAGA TTGGTAATTA TAATTCATTT AAATACAATA TGCTTTCTTA    4080

TGCAATCTTC AGCACATgGA TATGTAGCTC TTTAATGCAA ATGCTTTTAG CAAAAGAAAA    4140

ATATATGGAG TGGTCTTTGA TGACTATGGG AAAAGATTAT GTTGATGTAT TAGAAAAGTT    4200

AATAACTTAT CCTCACATGG CTTTAGTAGC CTTAGGTGCT TTCTTAGGAG GAATTCTTGG    4260

AGCATATATA GGCAAGGCTC TATTGAAAAA ACACTTTTCA AATGGATTAT ATTGTGTGGG    4320

ATACTTTACT CCTTGCCTAA TTTTATGGTG CTATCTGAAT TAAACCCTAT AGTTAAGATG    4380

TTTTTGAGTA TACCTATTGT TATTAGAATG TTTATTTTAC CATTTATGGC AGCAAGCTTT    4440

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AAGAAAAACA TCAAAATGGC TATGAGAGTA AGAGGGATAA ATTTTAAAAA CCCAGTCAAA    4620

TATCTTGAAT ATGTTTCTGT GCCACTACTC ATTATATCAT CTAATATATC AGATGACATT    4680

GCAAAAGCGG CAGAAACAAA GGCAATAGAA AATCCAATTG CCAAGACCAG ATACATTCGC    4740

GTAAAGATAC AGCTAATTGA TTTTGTTTAT GTTTTAGCGG TTGCTGGACT TATTGTGGGA    4800

GGCTTAATAT GGTTGAAATA AAAAAATTTAA GTCTTGATTA TGGTGAAGAG CATATATTAG    4860

ATGATATATC ACTATCCATA GCCGAGGGAG AGTGCGTGCT ATTTACAGGA AAAAGTGGAA    4920

ATGGTAAGTC ATCTTTAATA AATTCAATCA ATGGACTAGC TGTAAGGTAT GATAACGCAA    4980

AGACAAAGGG CGAAATAATT ATTGATGGTA AGAATATAAA AAATTTGGAA CTTTATCAAA    5040

TCTCAATGCT TGTTTCAACT GTTTTTCAAA ATCCTAAGAC ATATTTTTTT AATGTCAATA    5100

CGACATTAGA ATTATTATTT TATTTGGAAA ATATCGGTCT TGCAAGAGAA GAGATGGACA    5160
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1144

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GGCGTTTGAA GGATATACTT GAGATATTCC CGATAAAAAA TCTTTTGAAC AGAAATATAT        5220

TTAATCTATC CGGCGGTGAA AAACAAATTC TTTGCATTGC AGCTTCTTAT ATAGCAGGTA        5280

CAAAGATTAT AGTTATGGAT GAGCCTTCAT CGAATTTAGA TATTAAAAGC ATAAGTGTTT        5340

TGGCAAAGAT GCTAAAGATA TTAAAAGAGA AAGGCATAAG CATAATTGTT GCAGAGCATA        5400

GAATTTATTA TTTGATGGAC ATAGTTGACC GTGTATTTTT AATAGATAAA GGAAAGCTTA        5460

AAAAAACTTA TACTAGAAGT GAATTTTTAA AGCTAGATAA AAATGAATTA AATGCTTTAA        5520

GTTTAAGAGA TAAAGAATTA AGTAAATTAA AAGTTCCTTA TTTAAAAGAA GGTGGAGAGT        5580

ATCAGATAAA AAATCTTAGT TACAAATTTA CTGATGATGA GTGTTTAAGC TTAAAAGATA        5640

TTTCGTTCAA GCTTGGGAAA ATTTATGGCA TAATAGGATC CAACGGACGA GGAAAATCAA        5700

CGCTTTTAAG ATGTTTAATA GGTCTTGAGA AAAAATCAAA AGAAGAAATT TATTTTAAGG        5760

GAGAGAAGCT ATCTAAAAAA GAAAGACTCA AAAACTCTTC ACTTGTTATG CAAGATGTAA        5820

ATCATCAATT ATTCACAGAT GAAGTATTCA ACGAGCTTAG ATTAGGAGTA AAGAATTTTG        5880

ATGAAGAAAA GGCGAAAATC ATTTTAAACC CCAATTATTC ACCCCAAATC TAAAAACCAT        5940

CCAGAATCCT TGCCTTAGCT TAGATCCTGG ATGGTTTCTT TTTTCACCCA ATGGGTGTTT        6000

TTTACTAGAC AAAAAAGAGT TTCCCCTTTA TGGTATAAGT GTAGAAAAAA ACACAAAAAG        6060

AAAGGAAACT CACATGAACA GTTTACCAAA TCATCACTTC CAAAACAAGT CTTTTTACCA        6120

ACTATCTTTC GATGGAGGTC ATTTAACCCA GTATGGTGGT CTTATCTTTT TTCAGGAACT        6180

TTTTTCCCAG TTGAAACTAA AAGAGCGGAT TTCTAAGTAT TTAGTAACGA ATGACCAACG        6240

CCGCTACTGT CGTTATTCGG ATTCAGATAT CCTTGTCCAG TTCCTCTTTC AACTGTTAAC        6300

AGGTTATGGA ACGGACTATG CTTGTAAAGA ATTGTCAGCT GATGCCTACT TTCCAAAATT        6360

GTTGGAAGGA GGGCAGCTTG TTCACAGCCA ACCTTATCCC GTTTTCTTTC CAGAACTGAC        6420

GAGGAAACAG TCCATAGTTT GCGATGCCTC AACCTTGAAT TGGTCGAATT CTTTTTACAT        6480

GTTCACCAGC TG                                                           6492
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(2) INFORMATION FOR SEQ ID NO: 189:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 7174 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear


    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 189:

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AACTGAAGGT AAAGGCTTCG ACGCAGAACG TGACGCTGCC CAAGCTGCCC TTGATGACCT          60
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1145

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TAAGAAAGCT CAAGAAGACA ACAACTTGGA CGACATGAAA ACAAAACTTG AAGCATTGAA      120

CGAAAAAGCT CAAGGACTTG CTGTTAAACT CTACGAACAA GCCGCAGCAG CGCAACAAGC      180

TCAAGAAGGA GCAGAAGGCG CACAAGCAAC AGGGAACGCA GGCGATGACG TCGTAGACGG      240

AGAGTTTACG GAAAAGTAAG ATGAGTGTAT TGGATGAAGA GTATCTAAAA AATACACGAA      300

AAGTTTATAA TGATTTTTGT AATCAAGCTG ATAACTATAG AACATCAAAA GATTTTATTG      360

ATAATATTCC AATAGAATAT TTAGCTAGAT ATAGAGAATT ATATTAGCTG AACATGATAG      420

TTGTATCAAA AATGATGAAG CGGTAAGGAA TTTTGTTACC TCAGTATTGT TGTCTGCATT      480

TGTATCGGCG ATGGTACCAG CTATGATATC ATTAGAAATA CAAACATATA AATTTGTAAT      540

ACCGTTCATA ATTGGTATGA TTTGGACAGT AGTTGTATTT CTTATGATCA ATTGGAATTA      600

TATAGGCAAA TACTAAGAAG AGACAAAAAT ATATAAATAT TTCTGTACTT ATAGGATATT      660

TAAAATCAAA ATAAAGTTAA TTTACTTATT TGCAGAGGTT GCAACCCAGC CTCTGTTTTT      720

CGATAAAAAG GGACGGAATC TCATTTGTTT GGGTTTTGTC TCATCAATAG AAAGGAACAA      780

AGAGTGTTCG TAACTGAACA CGGGTTTCAG AATTTCTTAC TAAATATAAA AGAAAGGAAT      840

TGAACCCGAC CTAAATGGTG GTTCGATTCA GAACATCAAT AGAAAGGAAT AAGGGTGTTC      900

GTAACTGAAC ACGGGCTATG GACTGTGCCA AAAAGATAGT TTTTTCTAGG ACGTAAGCGT      960

CCGTCGTCAA AACTCCTAGA TGGCTGTGTC CGTTTGACGC CCTTTGTATC TTGAATTATG     1020

AACAATACTG AATTTTATGA TCGTCTGGGG GTATCCAAAA ACGCTTCGGC AGACGAAATC     1080

AAAAAGGCTT ATCGTAAGCT TTCCAAAAAA TATCACCCAG ATATCAACAA GGAGCCTGGT     1140

GCTGAGGACA AGTACAAGGA AGTTCAAGAA GCCTATGAGA CTTTGAGTGA CGACCAAAAA     1200

CGTGCTGCCT ATGACCAGTA TGGTGCTGCA GGCGCCAATG GTGGTTTTGG TGGAGCTGGT     1260

GGTTTCGGCG GTTTCAATGG GGCAGGTGGC TTCGGTGGTT TTGAGGATAT TTTCTCAAGT     1320

TTCTTCGGCG GAGGCGGTTC TTCGCGCAAT CCAAACGCTC CTCGCCAAGG AGATGATCTC     1380

CAGTATCGTG TCAATTTGAC CTTTGAAGAA GCTATCTTCG GAACTGAGAA GGAAGTTAAG     1440

TATCATCGTG AAGCTGGCTG TCGTACATGT AATGGATCTG GTGCTAAGCC AGGGACAAGT     1500

CCAGTCACTT GTGGACGCTG TCATGGCGCT GGTGTCATTA ACGTCGATAC GCAGACTCCT     1560

CTTGGTATGA TGCGTCGCCA AGTAACCTGT GATGTCTGTC ACGGTCGAGG AAAAGAAATC     1620

AAATATCCAT GTACAACCTG TCATGGAACA GGTCATGAGA AACAAGCTCA TAGCGTACAT     1680

GTGAAAATCC CTGCTGGTGT GGAAACAGGT CAACAAATTC GCCTCGCTGG TCAAGGTGAA     1740

GCAGGCTTTA ACGGTGGACC TTATGGTGAC TTGTATGTAG TAGTTTCTGT GGAAGCTAGC     1800
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1146

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GACAAGTTTG AACGTGAAGG AACGACTATC TTCTACAATC TCAACCTCAA CTTTGTCCAA      1860

GCGGCTCTTG GTGATACAGT AGATATTCCA ACTGTTCACG GTGATGTTGA ATTGGTTATT      1920

CCAGAGGGAA CTCAGACTGG TAAGAAGTTC CGCCTACGTA GTAAGGGGGC ACCGAGCCTT      1980

CGTGGCGGTG CAGTTGGTGA CCAATACGTT ACTGTTAATG TCGTAACACC GACAGGCTTG      2040

AACGACCGCC AAAAAGTAGC CTTGAAAGAA TTCGCGGCTG CTGGTGACTT GAAAGTAAAT      2100

CCAAAGAAAA AAGGCTTCTT TGACCATATT AAAGATGCCT TTGATGGAGA ATAATACTCT      2160

TCGAAAATCT CTTCAAACCA CGTCAGCGTT GCCTTGCCGT ATATATGTGA CTGACTTCGT      2220

CAGTCGTATC TACAACCTCA AAACAGTGTT TTGAGCAGCC CGTGGCTAGT TTCCTAGTTT      2280

GCTTTTTACT TTATAGATTT TTTAAGACTT TCCTAAGTAA TGACGGACGG TAGTGACCTC      2340

CTTCGAAGTT CCATACCTAA ACTTTGAACC TAAGTTTTAA AGTTTCCGGA CAGCTGAAAC      2400

CAAGCTGTTT CAGGTGTTTT CATTACGGCA GAAAGTCTTC GATTTAGTTG TGAAATGGTG      2460

AATGATACTC TTCAAAAATT TCTTCAAACC ACGTCAGCGT CGGCTTGTCA TGGGTATGGT      2520

TACTGACTTC GTCAGTTCTA TCCACAACCT CAAAACAGTG TTTGAGCTGA CTTCGTCAGT      2580

TCTATCCACA ACCTTAAAAC GGTGTTTTGA GCAGTCTGTG CCTAGCTTTC TAGTTTGCTT      2640

TTTGATTTTT ATTGAGTATG AATTACCTAA ATTATGATGC ATAGTTGATG GGATATATAT      2700

AATAGATTGA AATAGAATAT GAACAAATTG ATAAGAGGAT TTTAAAGTAA TCTCTAACAA      2760

TGCTTTAGAA ACTATGGTGT GCTATTCTAA ATTCAATTCA CTATAACTTG TTTACGTTTT      2820

AAAAAAGAGC CGTCGGGCTC TTTTTACTTA TCTTCAGTTC CCTGCATTTC TTTTATCACA      2880

GCTAGTCTAG TCTGGATATC CTTTTCCAAG ACCTTAAACT TGTAAGTCAA GTCTTCTTGG      2940

TATTCCTTGA TAAGTTCTTT TTGCTGGTTA ATGATTTGCA GGCTGTTTTG GATAAATATCC     3000

ACATCGTCCT TGATAGCTTG AACGCGGTCA GTGGTATTCA AGACTTCATC TGTGATGGTT      3060

TGGCGATTTT TTGTAACCAG ATAACTTCCG GCTGCAGCTC CTGCAAATAG CAGTAGGTTG      3120

GATAATTTCA TAGCAACTCC TTAAGCGTTT TTGATGGTTT CAGCGACTTG AGCAAGTTTG      3180

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GGCACAAGGT GAACGTGAGT ATGAAAAACT GTTTGACCAG CGACTTCTTC ACAGTTGGAA      3300

ATGATATTCA TACCAGCAGC CTTAGTGACT TTCATGACTT TTTGAGCTAC TTTTGGTACT      3360

TGGGCAAAGA GTTGGcTGGC GCTCGTAGCA TCCATCTCCA AAAGATTGCG ATAGTGTTCT      3420

TTTGGCACGA CCAAGGTGTG TCCTAGTGTT ACTTGAGAGA TATCAAGAAA GGCAAGGACC      3480

TGCTCATCTT CATATACTTT TGAAGCAGGA ATTTCCCCTG CGATGATTTT ACAAAAAATG      3540

CAATCTGACA TAAAATCTAC CTCTACTGTA CTGAATTTTG ATATAATATA GCTACATTAT      3600
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1147

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ACCAGATTTG GAGAAAATAT GTTAGAAATT AAAAACCTGA CAGGTGGCTA TGTTCATGTT      3660
CCTGTTTTGA AAGATGTGTC CTTTACTGTT GAAAGTGGGC AGTTGGTCGG TTTGATTGGT      3720
CTCAATGGTG CTGGGAAATC AACGACGATC AATGAGATTA TCGGTCTGTT GGCACCTTAT      3780
AGTGGCTCCA TCAATATCAA TGGCCTGACT CTGCAAGGAG ATGCGACTAG CTACCGCAAG      3840
CAGATTGGCT ACATTCCTGA GACGCCTAGT CTGTATGAGG AATTGACCCT CAGAGAGCAT      3900
ATCGAAACGG TTGCTATGGC TTACGGTATT GAGCAAAAAG TGGCTTTCGA ACGAGTAGAG      3960
CCCTTGTTAA AAATGTTCCG TTTGGAACAG AAATTAGACT GGTTCCCTGT TCATTTTTCA      4020
AAAGGGATGA AGCAGAAGGT CATGATTATC TGTGCTTTTG TGGTGGATCC AAGTCTTTTC      4080
ATCGTGGATG AGCCTTTCCT TGGTCTTGAT CCGCTGGCTA TTTCTGATTT GATTCAGCTT      4140
TTGGAAGTGG AGAAGCAAAA GGGCAAGTCT ATTCTCATGA GTACCCACGT GCTGGATTCG      4200
GCGGAGAAGA TGTGTGATGC CTTTGTCATT CTTCACAAGG GAGAGGTGCG TTCCAAAGGC      4260
AATCTCCTGC AACTACGTGA AGCCTTTGAT ATGCCTGAGG CTAGTTTGAA TGATATTTAC      4320
TTGGCTCTGA CCAAAGAGGA GGATCTATGA AAGACTTGTT TTTAAAGAGA AAGCAGGCCT      4380
TTCGTAAGGA GTGTCTTGGT TATCTGCGCT ATGTGCTCAA TGACCACTTT GTCTTGTTCC      4440
TGCTTGTCCT GTTGGGCTTT CTAGCCTACC AGTACAGTCA ACTCTTACAA CATTTTCCTG      4500
AAAATCATTG GCCTATCCTT TTGTTTGTAG GAATTACGTC TGTTTTACTT TTACTTTGGG      4560
GAGGAACTGC CACCTATATG GAGGCTCCAG ACAAGCTCTT TCTCTTAGTT GGAGAAGAGG      4620
AAATTAAGCT CCATCTCAAG CGTCAAACTG GCATTTCCCT AGTCTTTTGG CTCTTTGTAC      4680
AGACCCTTTT CTTGCTGTTA TTTGCGCCTT TATTTTTAGC AATGGGTTAT GGCTTGCCAG      4740
TTTTTCTGCT CTATGTGCTT TTATTGGGGG TAGGAAAATA TTTCCACTTT TGTCAAAAGG      4800
CCAGCAAATT TTTCACTGAA ACTGGACTGG ACTGGGACTA TGTTATTTCT CAAGAAAGCA      4860
AGCGTAAGCA AGTCTTGCTT CGTTTCTTTG CCCTCTTTAC GCAGGTCAAG GGAATTTCAA      4920
ACAGCGTTAA GCGTCGTGCC TATCTGGACT TTATTTTAAA GGCTGTTCAG AAGGTGCCTG      4980
GGAAGATTTG GCAAAATCTC TATCTGCGTT CTTATCTGCG AAATGGCGAC CTCTTTGCTC      5040
TCAGTCTTCG TCTTCTCTTG CTTTCCTTGC TGGCGCAGGT TTTTATCGAG CAAGCTTGGA      5100
TTGCGACAGC AGTGGTAGTT CTCTTTAACT ACCTCTTGCT CTTCCAGTTG CTGGCCCTCT      5160
ATCATGCCTT TGACTACCAG TATTTGACCC AACTCTTTCC GCTGGACAAG GGGCAAAAGG      5220
AAAAAGGCTT ACAGGAGGTA GTTCGAGGAT TGACCAGTTT TGTTTTACTT GTGGAATTAG      5280
TTGTTGGGTT GATTACCTTC CAAGAAAAAC TAGCCCTTCT AGCCTTACTA GGAGCTGGTT      5340
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1148

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TGGTTTTACT AGTCTTGTAT TTGCCTTATC AGGTAAAACG TCAGATGCAG GACTAACATT      5400

GCTGATACGA CACTAAAAAA GAAGTTGAGT TCAGTCTGTC TCAACTTCTT TTTTGTTACT      5460

ACAGGATAAT GGTTGGTCCG TAGAGACTTA TACTCTTCGA AAATCTCTTC AAACCACGTC      5520

AGCGTCGTCT TACCGTACTC AAGTACAGCT TGCGGCTAGC TTCCTAGTTT GCTCTTTGAT      5580

TTTCATTGAG TATTAACTTG GTCTTGACTT GGTCAAAGTG GAAGCGGTCA TAGGCCCGCC      5640

AAGCGGCGCG AGTTGGAGCA TCTGGATCAA GAGCGCTGAG TCCCATGAGA AGACTGGAAG      5700

TCTGGTAAAA TTTTTCTAGT TCAATCAAGA ATCGATTATC CACTGTTTCA GCCTTGGCTA      5760

GAAAACCAAG AATAGAGTTT AATTGCTCCT GAAAGCGGAC GTCGTCAGCG CTTGCCTGTT      5820

TGCATGCTTG GTAGGCTTTG TTTAAGTCAG TAATCAAAGT ATGAGCTCTT TTGATGGGGT      5880

CTGTATCTGT CATGGGAATG CCTCCTTTAA TCTGGGTGCC AGTCTTACTT CTGGCAACTG      5940

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CATGATGTTG TAGAAAATAA TCCTTTTAGG AGTTTTCAAA GACTGTTTAG GATTGGGTGT      6120

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GGGGGCCCAT CAGCTATTCT TTTTGGATAT TGAGATTCGA AATGAAGAGA TGAAGGGACT      6720

GGAAGTGGCT AGAAAGATTC GGGATCGGGA TCCTTATGCC CTGATTGTCT TTGTGACGAC      6780

TCACTCGGAG TTTATGCCCC TGTCTTTTCG CTACCAAGTG TCTGCTTTGG ACTACATTGA      6840

TAAGGCCTTG TCAGCAGAGG AGTTTGAATC TCGGATCGAG ACAGCCCTCC TCTATGCCAA      6900

TAGTCAAGAT AGTAAAAGTC TGGCGGAAGA TTGCTTTTAC TTTAAATCAA AATTTGCCCA      6960

ATTTCAGTAT CCTTTTAAAG AGGTTTACTA TCTCGAAACG TCGCCCAGAG CCCATCGTGT      7020

TATTCTCTAT ACCAAGACAG ACAGGCTGGA ATTTACAGCG AGTTTAGAGG AGGTTTTCAA  .   7080

GCAGGAGCCC CGTCTCTTGC AGTGCCACCG CTCTTTTCTC ATCAATCCTG CAAATGTGGT      7140
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1149

GCATTTGGAT AAGAAAGAAA AACTGCTTTT CTTT                                      7174

(2)  INFORMATION FOR SEQ ID NO: 190:

    (i)  SEQUENCE CHARACTERISTICS:
        (A)  LENGTH: 3207 base pairs
        (B)  TYPE: nucleic acid
        (C)  STRANDEDNESS: double
        (D)  TOPOLOGY: linear


    (xi)  SEQUENCE DESCRIPTION: SEQ ID NO: 190:

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CCACCAGGGA AAATCATTGA AGTTGGTAGT CACCAAGAGT TAATGCAGGC GCAAAGTTTC          60

TACCATCATC TATTCAATAA ATAAGGAGAA TGTCATGAAT CCTAATCTTT TTAGAAGCGT         120

CGAGTTTTAT CAGAGACGTT ACCATAACTA TGCGACAGTG TTAATTATAC CTCTTTCATT         180

ACTATTTACT TTCATCTTGA TTTTCTCCCT TGTTGCCACA AAAGAAATTA CTGTTACTTC         240

CCAAGGAGAA ATCGCCCCTA CAgTGTCATT GCCTCCATTC AGTCAACCAG TGATAATCCT         300

ATCCTAGCTA ATCATTTAGT GGCAAATCAA GTAGTTGAAA AAGGGGACTT ACTCATCAAA         360

TACTCTGAAA CAATGGAAGA AAGTCAGAAA ACTGCCTTAG CAACTCAATT ACAAAGACTT         420

GAGAAGCAAA AAGAAGGACT TGGAATTTTG AAACAAAGCT TAGAAAAAGC GACTGATCTT         480

TTTTCTGGCG AGGATGAATT TGGCTACCAT AATACCTTTA TGAATTTTAC TAAACAATCC         540

CATGATATTG AACTGGGTAT CACAAAGACT AACACCGAAG TTTCAAATCA AGCTAATCTT         600

TCCAATAGCA GTTCATCAGC TATTGAACAA GAAATTACAA AAGTTCAACA ACAAATTGGA         660

GAATATCAAG AGTTGAGAGA TGCTATCATA AATAACAGAG CACGCTTACC AACTGGCAAT         720

CCGCACCAGT CAATTTTGAA TCGTTATCTT GTAGCCTCAC AAGGACAAAC ACAAGGAACT         780

GCAGAGGAGC CATTTTTATC TCAAATTAAT CAAAGTATTG CAGGTCTTGA ATCATCTATC         840

GCAAGCCTCA AAATTCAGCA AGCTGGTATC GGAAGTGTAG CAACTTATGA TAACAGTTTA         900

GCAACCAAAA TTGAAGTACT CCGCACTCAG TTTTTACAGA CAGCCTCACA GCAACAACTA         960

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GAAAACAATA CCTTAACCTC CCCAAGTAAA GGTATCGTTC ATCTGAACAG CGAATTTGAA        1080

GGTAAAAATA GAATTCCAAC TGGTACAGAA ATTGCTCAAA TATTCCCTGT CATCACAGAT        1140

ACAAGAGAAG TACTAATCAC TTACTACGTA TCTTCTGACT ATCTACCTCT ACTAGATAAA        1200

GGACAAACTG TAAGATTAAA ACTGGAGAAG ATTGGAAATC ACGGCACCAC CATCATCGGC        1260

CAACTTCAGA CAATTGATCA AACTCCTACC AGAACAGAGC AAGGAAATCT CTTTAAATTA        1320
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                                     1150
ACCGCTCTTG CAAAACTATC TAACGAGGAT AGTAAACTCA TCCAATATGG CTTACAAGGT    1380

CGCGTCACTA GTGTAACTAC AAAGAAAACA TATTTTGATT ATTTCAAAGA TAAAATTTTA    1440

ACACATTCTG ATTAATTTTC AGATAACACT CTATAACTAT TTATTATCTT ATCAAAAAGG    1500

AGAATCATAA CATGGATAAG AAACAAAACC TAACTTCATT TCAAGAACTA ACAACTACCG    1560

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ACGAAAGACT TGATTTTGAC AGGTGGTATT TAGACTGGTA TTAGGATGGC TTTCCACAAT    1800

CTTCATGACG GTATAGAGAC CAACTCCTCT CTCCTCCCCT TTAGAACTGG CTCCAAAGGA    1860

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CTCGACCTGA ATCTCCTCAG GAACTTCGAC ATTAAAGACA ATGTTCTTAT CTCTGGCTTT    2100

TAAAAATTTC CCTGCTAGAA GACTTTTGAG GGCTTTATCA CGAATATTTA CCAATCTGCC    2160

CAGGTCATAT TTATTGTTCT GCAATTTCTG ACTGGAATCC TTTAAGACGG AGCCATAGAC    2220

CTCTTTTATC TGCTCCATAT CCTCCTCTTC AATGCCCAGA CGTAAGCTAG TCAAGAGGTT    2280

GGTATAATCA TGACGAAAGC TCCGTACTTC CTTGTAAAGC TCCTCTATAT GCCGACTATA    2340

GCGTTCCATA TCTCTATAGC GCAGGGCCTG CTCTTGTTCC AATCTCTCAT AGAGTTTTTC    2400

CTTCAAATAG GTATCCAATT TCTTGATAAC CCCCATAAAA AAGAGTAGGT AAAAGACTAG    2460

GATGAGATGG CGAACAGTCT TTGATTGAAT ACTTTGTTCA TATTCAAAAA AAGACAGACT    2520

TTCCATGACT AGATAGTAGC CACCCATTAT CCAGTTAATC TGAGTCAGGG ACTTTTGAAA    2580

GGCTTTATCG AGAATCTCCT TTCTCAAGCT AGTAAAATCG TAGTCCAACC ATTTCAAAAA    2640

AGCTAGAGAA ATGAAGAAAT TGAAAATTAT TATACATAAC CCAGTAAATG AGTAGCCATC    2700

ATATACTTGC CCTTGTCCCA AAAATGGAAG CACAAAATAG GAGACTCCTC TATAAAAGAG    2760

ATTCACCAAT ATCATTGGAA AGAGACCATA AAAGAAAAGG AGTTTTTTAG GAAGCCCTCT    2820

CAATAATAAG AAAGATAAGC CTATGCCGTA CAAGGGTTCC ATAAAATAAG ATAGGTAAAC    2880

ATTTCCTACT ATATAGCTAA TCATCACAAA AACAAAGGCC AACAGTATCT TCAAAAGAAA    2940

GGCCTTAAAA ATCCTCTCGA AAGTAAGATC AATTCCATCC ACCTTAAAGA AGATGACAAT    3000

TTCTAGTCCA TTAGTAACAA GTGTATACAA CAATATCCAA GCAATGTTCA TAAATTCTCC    3060

TAGCTCAGTG TAATTTATTG ATGGCCTCAG ACACTTCCCT GACCTTATAA CGGGCGATTA    3120
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1151

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GACAACTTCC ACCATTGGGA GAGAAGAGCA GTTTTTCTTT CTTATCCAAA TGCACCACAT      3180

TTGCAGGATT GATGAGAAAA GAGCGGT                                          3207
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(2) INFORMATION FOR SEQ ID NO: 191:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 10357 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 191:

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CTGAATCAAG TGTACTGCAC CAGTTCGTGC ATCAGGCATA ACAACATCTA CAGATATAAT        60

ATTGTTTTCT GAGTCCGCCT CATAAGTTAA AATCATAAAT TTTTCGATAT TCGAATTTTT       120

AGTAGCTTGT TCAATTTCTT GAATCATTTC ATCAGAAACT AACTCCATCT GAATTGGAAA       180

GGAATGACTA TTTTCATCAT TTTTGTAGGA AGAATGTTGA TTAAGATAAA GTGTATTCAT       240

CTGAGCATAT TCAAATAAGT AGCCACTCTT ATTTTTTTGT ACCAAAGGAA ATTGGTTTGT       300

AAGTCGCTTC TTACCCTTTA TAATTAACAA TACTTTCCCA TATTTTTCTG TATTTGTTTC       360

AAATTCTAAA TATCCCCAAG TCTGTCCTGC TAATTGTAAT TTATACTCAA ACAAATCTGC       420

TGATGCAAAT GCAGTATCAA TATGATTAGG TCGCGTCCAT GCATAACCAT TCGACACTAT       480

CATTGTCTCT CTTTTTTCTA GACGTTCATC TACATAATCT TTTTGCCCTT TCATCAAAGT       540

ATCTACAATT TTTTGTGCCT CAAGCGAATC AAAGAGATCC TGATTCAACA TAATTCTTCC       600

TCCTCCAAAT ACTTTTTAAT GAATTATACC ATTTTCTTAA AGAAATTACT ACAATAATTA       660

TCTTTTTCTT AAAGTTCTGT GTCAGAGTAA TTTAGAAAAT TATATCTTCT ATAGTAAAAT       720

CAATTAAAAA CTGAACAAAT TTATTGGGAA ATTCAAATCG CTTTCTGAAA ATATTTTAGG       780

AACCGTAGTG TAATATTCCA GATTCAATTC ACTATAAAAC TGACCTTTCT CCTGCAAAAG       840

AAAAAGGAAA GACTTCCTTT CGTGCCTTTC CTCTTACTTG CTACTTGTTT GATTATTTTT       900

GGTAAGCTAC TGCTTGTCTG ATAAAATCCT GAATCGGCTC TCCTTGGTGG AGAGCTTTTA       960

CTATTTTCGA ACCGACGATA ACACCATCTG ACACCGCATT GAAGCGTTCC AGATCGGCTT      1020

GACTAGATAC ACCAAAACCT GTCAAGACTG GGATGTCGGC CACTTGATGA AGTTGCGCCA      1080

AGTGCTTGTC CAAATCTGCA CGGTAATTGC CTGATTTCCC TGTCACTCCA TTGATGGCAA      1140

CGGCATAGAT GAATCCCTCC GCCCCTTCAA TCAACTCTTT CTGGCGCTCA ATTCCTGTGG      1200

TCAAGCTTAC TAAAGGAATC AAGGCGATAT CTGTATTTGC CAAAAATGGT TCTACAAAGT      1260
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1152

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TGGCATGTTC ATGAGGCAGG TCTGGGATAA TCAAGCCCTT CACAGCTGTA TCAGCCAGAT    1320

CTTTGACAAA GTTCTCCACA CCGTACTGAA AGAGGGGGTT GAAGTAGGTC ATGATGACCA    1380

GTGGAATCTC TGTTTCAATG GTTTTCAAGG TTTCAACTAA AGCCTGGGTA GAGGTCCCGT    1440

GGGCTAAACT GCGCAAGCCA GCTTCTTCGA TAACAGGTCC ATCTGCAACA GGGTCTGAAA    1500

AGGGAATACC CACTTCAATT GCAGAGACAC CCAAATCTTC TAAAAAGTGA ATTGTTTCAG    1560

CAAGACCGTC CAAACCTTTC TCGTGGTCAC CAGCCATGAT ATAGGGAACA AAAATTCCTT    1620

TTCCAGCTGC TTTAATAGCA TTTAATTTTT CTGTTAGTGT CTTAGGCATG AGCTTCTCCC    1680

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CCTGATAGGC AGACAATCAT AGACTTTTCT GGTCCAAGTT CTTTGGCCAA TTTCACCGCA    1800

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TGGAATCCTT CCAAGGCTTC TTCGTCTGTC ACAGGGACAT AGCTGGCACG TTTAATATCG    1920

TGGTAGTGAG AATGCTCTGG ACCGATACCA GGATAGTCCA AACCTGCTGA GATAGAGAAG    1980

GCTTCAAGAA TTTGACCATG GGCATCTTGG AGCACATCCA TGAGGGAACC GTGAAGGACA    2040

CCTGGACGAC CCTTGGTCAA GGTAGCTGCG TGGTGCTCTG TATCCACACC AAGCCCTGCT    2100

GCTTCAGTTC CATACATAGC TACTGACTCA TCTTCTACAA AGGGATGGAA GAGCCCGATA    2160

GCATTCGACC CACCACCAAC ACAGGCTACT AGGGCATCTG GCAGATCTCG ACCTGTCAAG    2220

TCACGGTACT GTTGTTTAGC CTCTCGACCG ATGACACTTT GGAAGTCACG AACGATTTCT    2280

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ACCCATGAAC GAAGGGCTGC ATTGACCGCA TCCTTGAGCA CGCGCGAACC ATCTGTTACA    2400

GCCTCGACCT TGGCTCCCAA AAGCTCCATG CGGAAGACAT TGAGGGCTTG GCGTTTGACA    2460

TCTTCCTCAC CCATGTAGAT GGTACATTCC ATGTTAAAGA GGGCTGCAGC AGTTGCAGTT    2520

GCCACACCGT GCTGACCAGC ACCCGTTTCT GCGATAATTT TCTTTTTACC CATGCGTTTG    2580

GCAAGCCAAA CTTGTCCTAA GGCATTGTTA ATCTTGTGGG CTCCTGTATG GTTAAGGTCT    2640

TCCCGTTTGA GATAAATCTT GGCTCCGCCA ATATGCTGGG TCAAGTTTTT TGCGTAATAA    2700

AGAGGAGTTT CACGTCCTAC GTACTGGCGC AAAAGCTGGT TTAATTCCTC TTGGAAACTT    2760

GGGTCTGCCT GACTTTCACG GTAGGCCTTC TCCAACTCCA AAACTGCTGT CATCAATGTT    2820

TCTGGGACAA AACGTCCGCC GAATTTTCCG TAAAATCCAT CTTTATTTGG TTCCTGATAT    2880

GCCATGCTTT ACCCTCTCTA TAAATCTTCT AATCTTTTCA TGATCTTTTT GTCCATCTGT    2940

CTCCACTCCG CTCGATACAT CTACTGCATA GGGAGTAAAG TGTTGAATTG CTTTTACTAC    3000

ATTATCTTCA TTAAGGCCAC CTGCGATAAA GAAGGGCTGT GCTAGTCCAG TCGTATCCAG    3060
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1153

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TTGACCCCAA TCAAAGGGCT GGCCACTTCC TGCCACAGGG GCATCAAAGA GTAGATAATC    3120

TGCCTGAGAA TTGGGGACAT GCCCATTTCC ATCTACCTGC ACAGCCTGAA TACTGGCACA    3180

AGGCAAATTC TCAAATAAAT CATCTGCCAC CTGACCGTGA ACTTGAACCA AGTCCAAGCC    3240

AACTTTGTCA ATCGCTTCCA GCAGTTCTAC CCGACTTGGT GAAACAAATA CTCCAACCTT    3300

TTTCACATCT GCAGGAATAA GCTTTGCCAA CTCAGCTGCC TCTTCTAAAG TCACCTGTCT    3360

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CGCTTCTTTG GTCGATAGTC CACAAATTTT AACCTTTGTC AATCTGCAAC TCCTTGATTC    3480

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TGCGAGCGCG GATGATTTGC TTTTCATCGA TGATAAAGTC TTTGTTGAGC GTCGGAATCT    3900

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CCACATCGAG ATTGATATCT CCCAAACTAG GGCTAGCTTT CTTGACCTCA GCGATTACCT    4080

GCAAGCGGTC CTGATGATTC TTCAAAAATT CTGCCAAGCG ATAGGTCTGG CGCAGAGGCT    4140

GGATTTGCTC CAGCTTCATC TGCTCCACCT CACGCGCCTT CTGCTCTAAG ATTCGTGCTA    4200

AAAATTCCTG ACTCATTTTT GGTACTCCTG TAACAGTCTG AGTTTTTCAA GGGCCTTGCC    4260

TCTAGCAATC ACTTGACGGG CCAAGGCAAC CCCTTCCTTG ATGCTATCAA TCTTACCATT    4320

AGCATAGAAA CCAAGACCAG CATTCAAGAC TGTCGTTTCC AAGAATGGAC TTGCTTCGTT    4380

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ATTTTCAAGA AGTGCAATCT TGGTTGTTCC GTTCAAGCCA GCTTCATCCA ACCCTTCTGG    4560

TCCAGCAACC ACGATGGCAC GTTTGCGACC CATATTTTTC AAAACCTGAG CTGTACTTTC    4620

TAGGAGTTCT GGACGACTAA TTCCAAGAAG CTGTGTTTCT AAAGCCATTG GATGAATCAG    4680

TGGACCAGTC AAGTTCATAA TCGTTGGAAT TCCCAATTCC AAACGAGCTG GCATGATGTA    4740

TTTCATAGCT GGGTGCATAT TTTTAGCGAA GAGAAAGACG ATTCCAGTTT TATCAAAGAC    4800
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1154

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CTTACCTAGT TCAGCTGGTT TGAGGTCAAG ATTGATTCCC AAGGCTTCGA GGACATCTGC        4860

GGAACCAGAT TTAGAAGATA TCGAGCGGTT ACCGTGTTTG GCCATGTGAA TACCGCCACC        4920

AGCCAAGACA AAGGCTGCAG TTGTGGAAAT ATTAAAACTG AAAGACTTGT CCCCACCTGT        4980

ACCACAGTTG TCCATGGCAT CATGAATCTC AGTTGGAATA TGCTGGGCAT GTCCTCTCAT        5040

GACTTGGGCA ATGGCTGTGC GTTCTTCAGG TGTTTCCCCC TTCATCTTAA GAGCTAAGAG        5100

GAGAGAAGCA ATCTGCGCTT CAGTTACACG CCCAGTTACG ATACGCTCAA TGACATCCGT        5160

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AGTTTCCTCA CTTTACAACC TCCTCGATAA AATTCCGAAT AGAAGACAAG CCGTCTGGCG        5280

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CCCTGCCCCA GCCTGCACAT AGGCTCTTTG ATTTTTGAGA ATCATGGTTC GGATGGCGAT        5940

GGCCAAATCC ATATCACCCG TCGCAGACAA GTAGCCGATT GCCCCAGCGT ATACTCCCCG        6000

TTTTTCCGTT TCCAGTTCAT AGATACGTCT CATCGCTCGA ATCTTTGGTG CTCCAGAAAC        6060

GGTTCCAGCA GGAAGCGTTG CTTTCAAGGC ATCCATGGCA GTGAGTTCTG GAAGCAAACG        6120

CCCCTTGACT ACGCTGGTCA AATGCATGAC GTAGCGGAAG AGCTCCACTT CCATATACTT        6180

AGTGACTTGG ACACTGGTCG TTTCAGAGAT GCGGCCAATA TCGTTACGCC CCAAGTCTAC        6240

CAACATTCGA TGTTCTGCTG TTTCCTTCTC ATCAGAGAGG AGGTCAGTCG CCAAGGCCTT        6300

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GCCATTTTTG ACAGAAACCA AACTTTCTGG ACTAGCTCCG ATGATTTGAT AATCCCCAAA        6420

ATCATAGAAA TAAAGGTAAT TAGAAGGATT AGTCACGCGG AGATTTCTGT AGAAGTCAAA        6480

TGGATTTCCA GTAACTTCTG CTGAAAAACG CTGGCTGAGT ACACATTGGA ACATATCTCC        6540

GTTACGAATC AAGTCACGAG CTGTTTCTAC CATTCCCTCA AACTTATGTG GAGCGATATG        6600
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1155

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CGGTTTGAAG TCTAACGGAG ATAGATCCAA ATCTTCAAAT TCATTTGGAG CAGGAATGCG        6660

TAATTCCTCA AGCACTTGGT TCAAGGATTT TTCCAAGGCC TCTTGACTGC GCTCACTATA        6720

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CTCTGAGTGG TGCTGACTCT TATGAATCAC TTCATAAAGG AAATCCAAGG GATCCCGATC        6960

AATCACTTGA CCATTTTGAT AGAGAACCCC ATTTTCAAAC TTAATCTCAA AAACTGGATT        7020

ATAGGCTAGG ATAGAAAAAC GAGCTGTTTC CTTGTCTCTC GGAATACTCT CTAAAATAAC        7080

CTTATGTTGC CCCTTTAAGC GCATATAAGC CAAGATTGGT GATAAGACAT CTCCATGAAT        7140

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GATTTCTCCT ATCTCTCATT CCTGTCTCAG ATATCTCCTG TAACAGGCTG TGCGATAAAG        7320

GGCACTCCCT TGAGAATGAT GTTTTCTTCT CTCGTTTCAG ATGAACCCAA CTTTACAGCT        7380

TTCTCTGCTT GTTTTCAGCA ACCACAAGCT CTCTGTGAGA GAAAGAACTG TAATTTTTCC        7440

ATCTATTATT TTTTAGCTTC TAGTAGTCTG CAATCGCAGC TAGGTCCTTG CCTCCACGAC        7500

CAGAGACATT GATGAAGAGA TGTTCATCTC GGTACACCTT TATACTCTTC GAAAATCTCT        7560

TCAAACCGCG TCAACGTCGC CTTGCCGTAG GTATGGTTAC TGACTTCGTC AGTTCTATCT        7620

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GTTTGCTTTT AGTAGTAGGC ATGGAGCTGT AGATAGAACT CAAGTTCATC AAAGCGACTT        7920

AAGGCCCTAA TAAAAGATAA ACCAAACGAC GGATAGAAAA AAGCCCACAC ACAGAATATA        7980

CTTCCGTGTG AGGGCGTTGG TAACGCGGTG CCACCTCAAT TATAAAGGGA CTATCCCTTT        8040

ACATCTCTGC CTTGTTTAAC AACAAGCTGC ACTGTAAGGT GTGCGCACCG AATTTTCATT        8100

GTTTCAAATT CATTTTCAAA ATCAGCCCAC TTTCACTACT TCCAACCACC TATTCACAAT        8160

CACCACAGGC TCCCTGAAGA TCAAAAATAG TTACTTTTCT GATTTGTTGA ACTTATTTTA        8220

ATACTTTGTT TTTTCTTTGT CAAGACTTTT TTACGATTTT TTTGAAAATA TCATTCGAAT        8280

ATGACCATGT CTTCCTTAGA TCGAACATGA ACATGTCCCA CTTCTTAGAA ATTGGATCCA        8340
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1156

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ACTCAATAGA AACTGAATGG AGGCTAAACA GAACTTATTT TAGAACACTC CATCTTTTCC      8400

ACTAGGATTT TCAAGAATTA AACAATACTA GAAACTCTGT CTCCTAACAA ATTTAGGAGA      8460

AACTTCAACA GATGTGACAC TTTCCCCTTT AATAATTGCT AAAACACCTT CTATCATTTC      8520

TTTAGCCAAT TTAACATAAT TGGGAGCAAT TGTAGACAAA GCTGGAGTAT AATACTGAGA      8580

AATAGGAATA TTATCAAATC CAATGATAGA AATATCATCT GGAATAAGAA TTCCTTTCTC      8640

ATAGCACGCA CGAATCAAGC CCTGAACCTT TTCATCTCCT GAAACAAAAA TAATGTCCGG      8700

ATAATTTTGG GTAGTCAAGT GCTGCATTGC ATAAGAATAA ACTGAATCAA TTGTAGATAA      8760

GCCATAAATG ACTTTTAAAT CCATAAAGTA ATTTTTATCA TTCAGAAAAG AACGCACACC      8820

TCTTTCACGA TCCTTATTAA CATGGGATTC TCCTCCCATA AGCAACCACA TATTTTTAAA      8880

TTTTTCTTCA GTTACAGCTT TCATCATATC ATAAGTAGCT TGAAAATTAT TATTAGATAC      8940

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TTTAACATAG AGTTAATTTT TTCTTTAAAG ATAACATTTG TTATCAACTC ATCAGGAGGT      9780

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GCAAAAGGAC AAAAACATCT GTCCCTTTGT TTACTAAATT TCAGCTAATT TCTTCGACAT      10020

AAATAACACC TACAATATTA GCAATTTCTT CCATCAGTCG AAGATGTTCA AATCTACCTG      10080

ATAATTCCAG AGTAATAAAT GACGCTATTT TTTTGTCCGG AACATCAAAG TATTCAATTC      10140
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1157

TGTCAGAATT AACATCTCCA AACGCTGTTC TTGAATCGGT CATTCTGATA CCATTTTCTG        10200

CACAATAAAC CAATACACGA TTATAGGCTT CTGTAGATTT AACCACTATA TACAATTCAA        10260

TCATTTTAGA ACGATTTTGC AGATATTTTT TTAGTGGTTG GAACATGGAT ATCACACCCC        10320

AAACAGAAAT GGCTACTAAA AGAGCTCCCT CATAAGG                                 10357

(2) INFORMATION FOR SEQ ID NO: 192:

    (i) SEQUENCE CHARACTERISTICS:
       (A) LENGTH: 6867 base pairs
       (B) TYPE: nucleic acid
       (C) STRANDEDNESS: double
       (D) TOPOLOGY: linear


    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 192:

CGGGACATTC TCAATCTTCT GTCTTTTGTT TTTCTCTTCT TTCTATGATA CAATGGAAAA          60

AATAAATTCA AAAGGAGTTT TTTTATGACT TATCCAAATC TCTTGGACCG CTTCTTAACC         120

TATGTTAAGG TCAACACGCG CTCTGATGAA CACTCTACTA CTACTCCAAG TACACAGAGT         180

CAGGTTGACT TCGCAACAAA TGTCCTAATT CCTGAAATGA AACGTGTTGG ACTGCAAAAT         240

GTTTACTATC TACCGAATGG TTTTGCTATT GGAACCTTGC CAGCCAACGA TCCGTCTTTA         300

ACACGTAAGA TTGGTTTTAT ATCGCACATG GATACTGCTG ATTTTAATGC TGAAGGAGTC         360

AATCCACAGG TAATTGAAAA CTACGATGGT GGTGTGATTG AACTAGGGAA TTCTGGTTTC         420

AAACTCGATC CAGCTGACTT CAAGAGTCTT GAAAAATATC CAGGACAAAC GCTCATCACA         480

ACAGATGGAA CAACCTTGCT AGGTGCTGAT GACAAGTCAG GAATTGCTGA AATTATGACA         540

GCCATTGAAT ATCTAACTGC TCATCCTGAA ATTAAGCACT GTGAGATTCG TGTTGGTTTT         600

GGTCCAGATG AAGAAATCGG TGTTGGTGCC AATAAATTTG ATGCAGAAGA TTTTGATGTG         660

GATTTTGCCT ACACTGTTGA TGGTGGTCCA CTAGGTGAAC TTCAGTACGA GACTTTCTCA         720

GCCGCTGGTG CTGAATTGCA TTTCCAAGGT CGTAATGTCC ACCCTGGTAC TGCCAAAGGG         780

CAGATGGTCA ATGCCCTTCA GCTAGCAATT GATTTTCATA ATCAACTTCC AGAAAATGAC         840

CGACCTGAGT TAACTGAAGG TTACCAAGGT TTTTACCATC TAATGGATGT GACAGGTAGT         900

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CGTAAAGCAT CCATGCAATC TATCGCTGAT AAGATGAATG AAGAACTTGG GAGCGACCGT        1020

GTCACTCTCA ACTTGACAGA CCAGTACTAC AATATGAAAG AAGTCATTGA AAAAGATATG        1080

ACTCCAATTA CCATTGCTAA AGCCGTTATG GAAGATCTAG GTATCACGCC TATTATCGAA        1140

1158

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CCAATCCGGG GTGGAACAGA CGGCTCTAAG ATTTCCTTTA TGGGAATCCC AACTCCGAAT      1200

ATCTTTGCAG GTGGCGAAAA TATGCACGGA CGTTTTGAAT ACGTTAGCCT TCAGACTATG      1260

GAACGTGCAG TTGATACCAT CATTGGCATC GTAGCTTATA AAGGCTAAAA AGACGAGGTA      1320

GCTCAGCTAC TTCGCCTTTC TTTTTATTCT ACTGGTTTTT CTTGATTTCC AGTAGTTGTA      1380

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CTTGGTTTGT TTTCGTCGCT AGCAGTTTCA ATGTTAGATT CTGCAGTTGC GTTTGGTTGG      1500

TTCTCAGCAC TGGTGTTATC ACCATTTGCT TCAGCATTTC TTGCTGGACT TGTTTCTTCA      1560

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TCAAAGTCCG CATCAGATCC ATTATTACTT TCTAAATAAG AGTGAAGCGA CATGAGAATA      1740

TCGTAGAGTT TTTGATAGAG TACAAGTGTC TGAGGATCTT GCTCAGCATT TTCCTTTTCT      1800

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AAGTCTGCAT CAGCCTTGTT TGTGGCAGCT TTTAGATTTT CTACTTCTTC TGCCAAGGAT      1920

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TCTACTTCTT CCTTGCTATC TGTCGCAGAT TATTGGTTGC TATCTACCAT GTACTCCTAA      2040

AACAGGAGAG TTATAATCCA AGATTACAAG GCCTTACAGA AATAAGAAAT CCAGATAAGA      2100

CAATGTTCGT CCAAGACGCT ATTCGCTTCG CACAGCAGCA CGGATTCAAT ATGCTTTAAT    · 2160

TTTAAAGTTT AGGTGTCAAG ACCTCTTTTT AGTGTGCCCA AAATTTAGAG AAGTAATCAA      2220

TCAACTAACT TTTATTTTTT TCAAACTTTC AGTAAACTGA CCTAAAGCTA ACTCAATCTG      2280

TCTTTGTAGA TGCTTCTGCT ATCAGCTAGA AGTTGATCTA CTTTTGCCAA GACTGCCTTC      2340

TCATCAAAAG TTCCAGGTTG ATAGTTGGAT TGCAGGGATG GAATCTTGTT TTTCAAAGCC      2400

GCTTCATATC CCTTAGTTTG AACCTTGATG TAGTGATTGT GGTCGCCATG AGGAATCACA      2460

AAACCTTCTG AATCTTCACT TATAATTCGA TTGGCATCAA AACCATGACC ATCTTCTTCC      2520

TCATGATGGA CATGTAGTGA CGGATTACTT AATACAGAAC TAGAAGAACT TCCTACCTCT      2580

TCCGTGTTAG AGTGTGATGG GGGATTGTTA AGAGATGACT TAGGAATATA GTGATAGTGA      2640

TCCCCATGTC TTACTATATA AGCATCACCT GTATCTCTGA CAATATCATT AGGGTTAAAG      2700

ACATATGTGG CTGCTAATTC ACCTGCCGAC AAGTCACTCT CAGGAATGAA ATGATAGTGA      2760

CCACCATGTG GTACTATAGT AGATTGAAAT AGAATATGAG CAAATTGATA AGGGGATTTT      2820

AAAGTAATTT CTAACAATGA TTTAGAAACT ATGATGTGCT ATTCTAAATT CAACTCACTA      2880

TATATAACCA TCATCGGTAG TATAACGTCC CTGTAATTTT GCTACAGATA CTTCTGCACT      2940
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1159

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|---|---|---|---|---|---|
| AGCTCCTTTA | TCGTCTTTAC | CATGTTCTTG | TTTTTGGCGA | TTGATTTCAT | CTTTTGTTCG | 3000 |
| TACATTTTCT | GCATGAGCTT | GATCTTTAAG | GTAAACATAA | TACTTTCCAT | CTACCTTAAT | 3060 |
| AATATATCCT | CCCTTAACCT | AACTGACGAT | ATCTTGATCT | TTCGGCTGAT | AGTTGGGGGC | 3120 |
| TTTCATTAAT | AGCTCTTCAC | TAAAGAGCGC | ATCAAAAGGA | ACTTTACCAT | TATAGTAGTG | 3180 |
| ATAATGATCG | CCATGAGAAG | TTACATAACC | TTGATCTGTA | ATCTTAATAA | CAATTTGTTT | 3240 |
| TGCTTGAATT | CCTTCTTTTT | GACTAACCTA | GTCTGGAGTC | AAATTTTCAG | TCTTCTTAGT | 3300 |
| GTCTTTATTA | CTGTTTACAT | ATGAAACACG | ATTTTTATCT | GTATTGGCCT | GTTAGCTATG | 3360 |
| TTGGTTCAGA | GCATAAACAC | ACAGACTTAA | GGAAAGGATA | ACAACAGATC | CAGCTGCTAT | 3420 |
| ATATTTCTTT | TTAAATTTCA | TAATTACCTC | ATTTCTATAA | TTATTTATAT | GATGTCTTCA | 3480 |
| TTATTAAATG | ATTAAATAAA | TTAATTAACC | AATTAATTAA | CTAGTAAATA | TTCCACCTCT | 3540 |
| TTTTAAGTTG | TATGTCAAGA | AATTTTATAT | ATTAATAATA | AAATGAAATT | CTCCCAAAGT | 3600 |
| CAGAGTTTTA | TTTCTAACTT | TTGAGAGAAC | TTCATTTTTG | ATTCAGACTT | TTTCTACTGC | 3660 |
| TATTCCTTAC | GCTATGAGAT | CAGATAAATT | CTTTTTTATC | ACTTCTCCAC | TTGGCAATCT | 3720 |
| TAATTCAATC | GTTCCATCCA | TATTGAATAT | AACACTATCT | AAGCCTAATC | CGTAACTAGC | 3780 |
| TGTAAATTTT | TCTAATTTTT | CTTGTACAGG | ATCTACTGCT | GGAGCTTCCT | CTAATGCTGG | 3840 |
| ATCTAACATA | GGGTCACTCC | CCACATTCCC | TTCTGGATTC | AACATTCCAT | TATCCGTTGA | 3900 |
| GTTTTCTGGT | TTTACAGGTT | TTTCGTTTGG | TGCCTCTGGT | AAAGAATCTG | CTGGTTTATT | 3960 |
| TTCTGTTGGT | TGGTTCTCAA | CTGTTCCAGT | AGATACTTTT | CCATTTTCAG | ATGGTTTATT | 4020 |
| TTCACCATTT | CCTTGAGGTG | CTTCTCCTGT | AAAATCTGCC | ATATTCTTTT | TAATGACTTC | 4080 |
| TCCCGATGGT | AAATATAATT | CAATTGTTCC | GTCCATATTA | AACAAGACAT | TTTCTAGCTT | 4140 |
| CATCCCATAA | CTTTCAGCAA | ATTTTGCTAC | TTTTTCTTGT | ACAGGATCCA | CTGTAGGAAC | 4200 |
| TTCTTCTAAC | GTTGAATTAC | TAGTACTATT | CCCAGTTTCA | GAAAGTTTTT | CTTTTTCTAC | 4260 |
| CTTCTCACTA | GTCTTTGGTT | CTTCTACCTT | TTCATCAAGT | TTTAAGTTTT | CTTGTGCTTT | 4320 |
| ATTCCTTTTA | AATTGTGGTA | GAATACTTGG | TTTATCAGTT | TGATTTTCTT | TTTCCAAGAT | 4380 |
| AGGTACTTCC | ACAATATAAG | TCGATTGATT | GTCCAAATAA | GCATTTGCCA | TGAAGGTTAC | 4440 |
| AGGAATTTTA | TTTCCGGCCG | TTCTGGTTGT | TCCTTGGTTT | AATTTCGGAA | TCGGTAATTT | 4500 |
| GATTTCACCA | ACTTTATAGT | TATTTTCTAA | ATAAGCATTT | CCATGAAATT | CATCAAACAC | 4560 |
| TCTGACTAAA | GCATCAGTTC | CTTTAGGCAC | TGCAAATTGA | GGGTTCACTC | TTAAATAAGT | 4620 |
| ATCCCCTGCA | TGGAAAGGAT | AGAAAATCGT | TTGACTGGCC | ATTTTGTAAG | CTAAAGAGGT | 4680 |

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                                  1160
TGGAACTGTA AATGTACCAT CATAACTTAC TTCTGGATAA TCTTTTGAAG CGATAGTATA    4740

CTTAAATGTT TGTCCTGGTA AATAAGGTTG ATCTAATTCA AAGTTTGCAA TATTCCCTAC    4800

TCCTTCTCCA AATACTTTAC CAGATACTTT CTCCAATACT TTTCCATCTG GTGTTATTAA    4860

TTTTACTAGC ATATTGATAC CTAATTTTTT CTCCAATTCA GGCGGAAAAC TAAAAGAAAC    4920

GCGTTTTTGA CCATTGGCTA GAGTAAAGTT TTGATTATTA AACGTACTAT TTTTTAACAA    4980

ATTAACAACA TTCGTTAATT CTTCTCCAGT ATAAACTTTA TTCCCTTCTT TTTTAGCAAC    5040

TCCTTCTTCG GGTTTAAACA GTTCATAGTT ACTGTGAGAA TGACCAATTC CAACCGGTTT    5100

ATGTTCATCA ATCGGATCTG CATGATGGTG ATCTCCATGC GGATAAATAA TCGCATTTTT    5160

TTCTTTATTC ACGACAATAC TTTCACGTTT GACACCATAT TGTTTCATAA TGCCAGCAAT    5220

TTTTTCTTCG ATTTTTTTAT CTAAATCTTT CATTTCTTTG GCATTACTTG GATAATCCTG    5280

TTCATGAGAT GACAAAGAAT CTAATCCATT ATGACTAGTT TTAACTTCCT CTAAATGTTT    5340

TTGCGCAsCT TAATTTGCTC TTCTGTCAAG TCCTTCTTGA AGAAATAATG ATTGTGGTCT    5400

CCGTGACTCA TGACAAAACC TGATTCATCT TCAGCGATAA TACGATTAGC ATCAAATCCG    5460

TATCCATCTT CTTCATGTTT CTCATGTGAA GTTCCTGGAT TGATTGGAAG AGATGGAGAA    5520

GGTGTTGCTA GACTATTGTT TGGAAGAGTC GGTTGCCCAA TTTGATTTGA TTTTGGAATG    5580

TAATGGAAAT GATCACCATG TCTTACAATA TAAGCTGTAG CCGTTTCTTC AACGATATCT    5640

TTTGGATTAA AAATATAACC ATCAGATGCT GAAGAGAGCT CCTTACTTGT CGTTAAAGAA    5700

GAAGGATTGC TTGAAAGACT GCCTAGACTA GACACTACTT CATTAGGTTT TGCATTTGTA    5760

GAAACTGTAG AACCAGTTCC ACTGATAGGC ACCATTCTGG CAATCTTTTC TTCTAAGGCA    5820

GAAAGCTTGC TGTAAGGAAT AAAGTGGTAA TGGTCGCCAT GCGGAATCGC AACTCCATTT    5880

GGTGTACGAC TGATAATCTT AGCAGGGTCA AAGACCAGGC CATCTGATTC ACTGTAACGT    5940

TGGGCGCTAG GTGAATCATA GAGTTCCTTC AAAAGACTCT GGAGATTTTC AGATTTATTT    6000

GCTGGCTTGC TAGTTGATCC TTTTGCTACA GATTGCGTGT TATTGTCACT AGCTGTTGAA    6060

GAATAGCTTA ACTGACTCGG TTGCATATTT TTTCCAGCCA GATGTGCTTT AGCTGCTGCT    6120

AATTCACTAG CAGATAAATC GCTTTTGGGA ATGTAGTGAT AGTGACCTCC ATGAGGAACG    6180

ATATAAGCAT TACCCGTATC TTCGATAATA TCAGCTGGAT TAAAGACATA ACCATCATTT    6240

GTCGTATATC GTCCCTGAGA CCTTGCTACA GCAACATTAG AGTTAACCTT CTCATTATCT    6300

TTGACATGTT CTTGTTTTTG ACGATTGATT TCATCTTTAG TTCGAACATT ATCAGCATGA    6360

GCTGCATCTT TCAGGTAGAC ATAATATTTT CCATCGACCT TGATGATATA ACCACCCTTG    6420

ACTTCATTGA CAATATCAGC GTCTTTAAGT TGATAGTTTG GATCCTTCAT CAAGAGTTCT    6480
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1161

TCACTAAAGA GGGCATCATA AGGAACTTTC CCATTATAGT AATGATAGTG GTCACCGTGT          6540

GACGTTACAT AGCCCTGATC TGTAATTTTG ATTACAATTT GCTCAGCCTG AATTCCTTCT          6600

TTCTGGCTAA CCTGGTCTGG TGTCAAGTTT TCACTTTTCT GACTTGACTG GCTGCCATCC          6660

ACATAAGAGA CACGATTATT GTCCTTATTT TCCTGCGAAC GATGCTGGTT TAGTGCATAG          6720

GCACATAGAC TCAAGGATAC GATAACAGCT GATCCAGCTG CTATATATTT TTTACTAAAT          6780

TTCATAAATC CCTCATTTCA ATAAATGATG AAGTTTTTTC TCAACTTCTT TTACTTTATT          6840

AAATAGTTTT CTAAACCCGG GGGTACC                                             6867

(2) INFORMATION FOR SEQ ID NO: 193:

        (i) SEQUENCE CHARACTERISTICS:
            (A) LENGTH: 999 base pairs
            (B) TYPE: nucleic acid
            (C) STRANDEDNESS: double
            (D) TOPOLOGY: linear


        (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 193:

CGTTCTAAAA ATGCAGTACG TTTGATTGAG AAATCAGTTA AAGGTATGCT TCCACACAAT          60

ACACTTGGAC GCGCTCAAGG TATGAAGTTG AAAGTATTTG TTGGAGCTGA GCACACTCAC         120

GCTGCACAAC AACCAGAAGT TCTTGACATT TCAGGACTTA TCTAAGGAAA GGAACAATAA         180

AGTATGTCAC AAGCACAATA TGCAGGTACT GGACGTCGTA AAAACGCTGT TGCACGCGTT         240

CGCCTTGTTC CAGGAACTGG TAAAATCACT GTTAACAAAA AAGATGTTGA AGAGTACATC         300

CCACACGCTG ACCTTCGTCT TGTCATCAAC CAACCATTCG CAGTTACTTC AACTGTAGGT         360

TCATACGACG TTTTCGTTAA CGTTATAGGT GGTGGATACG CTGGTCAATC AGGAGCTATC         420

CGTCACGGTA TCGCTCGTGC CCTTCTTCAA GTAGACCCAG ACTTCCGCGA TTCATTGAAA         480

CGCGCAGGAC TTCTTACACG TGACTCACGT AAAGTTGAAC GTAAGAAACC AGGTCTTAAG         540

AAAGCTCGTA AAGCATCACA ATTTAGTAAA CGTTAATTCG AAAGAATTAC TATACTTATA         600

CAGAGCACCT TTCGGGGTGT TCTTTTTTTA TACTTTCTTA CTAAATTGGT GCAATTGACA         660

CAGTTGTTGC GACTTTAGTC GCTTACAAAT GTGGCTGCAA CCTGACATGG TCAGTTGCCT         720

CAAAACGTTA ATCAATACGA TTATATCAAC GTTTCAAAGC ACTCAAGGGT TTACCCTATG         780

GGTGCTTTTT TCTATACTTT CTAAAAAAGT TTACCCTAAA ATTTGCCCTA AAATTACCCT         840

ACTTATTTTT AAGATGTTGG TAGGCAACTT GTCCAGCAGA TAATGGAACT ATGTTTGAAG         900

TATTAACATA AGTCTTAGTT GTAACGGTAT CGCTATGAGT TAATGCTTCA GAAATGGCTT         960

                                    1162
CTAAGCTCAT TCCTGCTTTT TTAGCAAGTG TCGCTCCTG                        999

(2) INFORMATION FOR SEQ ID NO: 194:

        (i) SEQUENCE CHARACTERISTICS:
            (A) LENGTH: 2315 base pairs
            (B) TYPE: nucleic acid
            (C) STRANDEDNESS: double
            (D) TOPOLOGY: linear


        (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 194:

AATATTATCA CTGTTCTTGA AGGCAGAACA CAAGCTGTCA TCCGAAATCA CTTTCTTCGC        60

TACGATAGAG CCGTTCGTTG TCAAGTGAAA ATCATTACGA TGGATATGTT TAGTCCTTAC       120

TATGACTTGG CTAAACAGCT TTTTCCGTGT GCTAAAATCG TTCTAGATCG TTTCCATATT       180

ATCCAACATC TCAGCCGTGC CATGAGTCGT TTTCGTGTTC AAATTATGAA TCAGTTTGAA       240

CGAAAATCTC ATGAATACAA GGCTATCAAG CGTTACTGGA AACTCATCCA ACAGGATAGT       300

CGTAAACTCA GCGATAAACG TTTTTATCGC CCTACTTTTC GCATGCACTT AACAAATAAA       360

GAAATTCTTG ACAAGATTTT AAGCTATTCA GAAGACTTGA AACACCACTA TCAGATCTAT       420

CAACTCTTAC TTTTTCACTT TCAGAACAAA GACCCTGAGA AATTTTTCGG ACTCATTGAG       480

GACAATCTGA AGCAGGTTCA TCCTCTTTTT CAGACTGTCT TTAAAACCTT TCTAAAGAAC       540

AAAGAGAAAA TCGTCAACGC CCTTCAACTA CCCTATTCAA ACGCCAAATT GGAAGCGACC       600

AATAATCTCA TCAAACTTAT CAAACGCAAT GCCTTTGGTT TTCGAAACTT TGAAAACTTC       660

AAAAAACGGA TTTTTATCGC TCTGAACATC AAAAAAGAAA GGACGAAATT TGTCCTTTCT       720

CAAGCTTAGC TTTTCTTCAA CCCACTACAG TTGACAAAGA GCCTATTTTC GCTGATTCTC       780

CACTACATTT GACTGGATTC TAATTTTTTA GAGAAATACA AAAGAGCTAG CTTTAGCTAG       840

CTCTTTTCCT ATGCGGAGAG AGGGACTTGA ACCCTCACGA CCTAAAGCGG TCACAGGATC       900

CTTAGTCCTG CGCGTCTGCC AATTCCGCCA TCCCCGCGTC GATTACTTTA CTAGTATATC       960

AACTTTTGGG ATGCTTGTCA ACACTTTTTT TCAAATTTTT TCATTTTCAC CAACCAGGTT      1020

ACTCAAAAAG TTCATTTAGA TTTTCATCTA CTAACTTAGC TCCGAGTGTA TTTTTGAAAT      1080

GACCTAGGGC AAATTGATGA TTTTCAGGCC AGATGGAAGC AACAGCTGGT TTAACAATCT      1140

CGATGTCATA TCCTAGATTA TAGGCATCTA TAGCTGTATG TAGGACACAG ATATCCGTCA      1200

AGACACCTGT TAAGATAACG GTAGACACTC TACGCTCTCT CAAACGAATA TCTAGGTCAG      1260

TCCCTGAAAA AGCTGAGTAA TGGCGTTTAT CCATCCAAAA GACACGACTG TCTGAACCAT      1320

GCTCTTGATA AAAGATCCCC AAATCTCCAT ATAAATTCCG TCCACTCGTC CCAATCAGAT      1380

1163

TATGAGGAGG AAATAACTTA CTTTCCGGAT GGAAACAATC GTTTTCTTCA TGAGCATCAA          1440

TAGTAAAGAA GATATAATCT CCTCGTTCAA AAGCTAATCG AGTTACCTTG CTGATGGCAT          1500

CCGAAATCGC CTGAGCTGGA GCACCTGCTG TTAGTTTCCC ACTATCAGCA ACAAAATCTT          1560

CTGTATAATC AATCGAAATT AAAGCCTTTG TCATTAGTAA TCTCTTTTCT TCACTTCTTC          1620

AAAAATATCT GAAATCAAGA CCTTAAGATA GGTTCCCTTC ATTCCAAGTG AGCGACTTTC          1680

AATAATCCCC GCAGACTCAA GTTTACGAAG AGCATTGACA ATCACAGAGC GAGTGATTCC          1740

GATACGATCT GCAATCACTG ACGCAGTCAA CTTCCCTTCA TTTCCATTTA ATTCCCCTAA          1800

AATTGCTGAA ACAGCACGGA GTTCGGAGTA AGAAAGGGTA TTGACCGCCA TGGTGACAGC          1860

AGTACGACGA CGAATATTTT TCTCATCTTC TTCACGTTGG AAGTTAAGAA GCTGAATCCC          1920

AACAACGGTA CTGGCAATCT CAACAAGAAC CAAGTCCTCA TCTTCGAATT TTTTATCATT          1980

ACGCCAAATA ATCAAAGAAC CAAGGCGAAT CCCCGATACA TGAATCGGTG CAATAGTCGT          2040

CAAGCCATCT GGAAAATCAT CTCTACTCTC AATAGGGAAA ATACTCATAT CATGCTCAAC          2100

AGGCAAGTTT GCTTCTGTTT CGTAAATCAT ATTAGCCCCT TGAACGTAGT CATCTGGGAA          2160

AATCTTAGTT TGGAAGAATT GCTtACGCGA TCTGTATTTG TTTTATAACG CATAAAATAG          2220

CCAAGCAGAC GTCCCTTACT ATTGATAATG CAGGCATTGC AATGAATAAT ATCCGCTAAC          2280

TGACGCGTAA TAGCGTTGTA AGGGAGCTCA TCTCG                                     2315

(2) INFORMATION FOR SEQ ID NO: 195:

        (i) SEQUENCE CHARACTERISTICS:
            (A) LENGTH: 6693 base pairs
            (B) TYPE: nucleic acid
            (C) STRANDEDNESS: double
            (D) TOPOLOGY: linear


        (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 195:

CGATTTCTTC CATTTCTTCA AATAAGAATA CTTCATCTGA CATATGTGTT ACCTTCTTCA            60

TCAAAAATTA TTTTGTAATC GATTACATTG CAGATCGTAA CATAAAGAAA AACAGATGTC           120

AAATATTAAA CGTAAAAACA TGGTCACTAA AGAACTATAA GAGAAAAGGT AAACCTAGCG           180

ACGCGATGAA CGCTGGGTCG TTTGGTTTCG ATTGCTCTCT TCCTCTTGTT TTTTCTGTTC           240

TTCTTCTTGT TTTTTCTCAG CTTCCTTGGC CTCTTGTTTG GCTTTTTCCT CAGCTTCCAT           300

AATTAATTTA TCCGCCACAG TGTAGCTGTA GATTCCAGCT TCCATGTCGA CCACACTCGG           360

TTCTGACAAT TGAGGCTTAA TCTTACTGTA ATATGGCAGT TTCTTACTCA TTTCAGATAG           420

1164

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AGGAACCAAG ACTTCGTCCG AATCATTCAT GGTCAATCGA ATTAAATCGG ATGTCACCTT      480

GCTTGGGGCT AATTCCACCT TTTGGATAGC CGCCTTGAGT TCTGGGCTAA TTTGAGCAAG      540

TTCTGAGACA AAAACTTTGA TTTGTTCACT ATCATTAAAG AGAACTGATA AATAAGTTTC      600

TGGTAAACTG TTCAGACTCA CAGAACTAGT CTCAAGCTGA CCACTGGAAA GAATAGGATA      660

ATGATTTTCA CCAGAAATAT AGTAGGCCAC AATATCATAT TCCTTGACCT TAATAGTGAA      720

CTTAGTTGGA AATTGATAGA CAAGTTGAGC TGATTCAACC CAATAGTTAG ACTTAATCTG      780

CTTTTCATAT TTTGCCTTGT CTAGCAGAAG GTTAATCGTA TAATCCGAAT CCTGAATGCC      840

TGAAGCCTGT CGAATATCAT CAGCTGTAGT TTGCACCGTT CCCTCAACAC GAATATCTTT      900

CATGGTCGCA TAAGGACTGA GCAAGTAGGC AGAGACAAAC AATAGAAGCA GACTTGGAAA      960

TAAAATCGTG AAGGCTCGCA AGATATGGAT ACCAGGAATC TTTGCTTTGG CTGGTTTTTC     1020

CTTTGTAGCC TTTTTAGCAA GCTTTTTATC CTGTTCCTCC TTCTCTTTAG ACTCTGGTTC     1080

TTCTTTCTCT TCTTTCTCTT TGTCAGCCTC TGAGGATGCT ACTTTTTCTT CAGACTCTTC     1140

CTTAGCTGAT TCTGAATCTT CCTGGTCTGT TTCACTCTCC TGGTCCTGTT TATCCTCTGA     1200

CTTCTCAGAT TCTTCTCCCA TTCGAGCTTG TCTTTCCTTT TCCTTCTCCT CAGCTAGAGC     1260

CGCCTCTTCT TCAGCCTTCT TTTTTAGATA TTCTTGGTTT CGTTTCTGCC ATTCTGATAA     1320

CTCTTTCAAT TCTTCGAGGG TTTCTTTGTC CTCATTTTTC TTATCTTTTG ACATTTACTT     1380

TCCTTATGAT AAATCTTTTT TCAACAATTG ATAAAAATCT GCTAGAGATT TCAATTCCTT     1440

AGAAGCTTTC ATCTTAGCTT GGTAATCTTC CTTGTGACTT AGTAAGTGAG AAAGCTTCTC     1500

TTCCAAACTA TCCAAGGTCA AATCGCTTTC TTGAAGGTCT TCTGCATAGC CTTTCTTAAC     1560

AAAGTAAGCT GCATTTTCAA TCTGGTCACC ACGACTAGCT TCACGACCAA GCGGCACAAT     1620

GACATGCAAT TTTGCTATCG CCAAGAGCTC AAAAATCGTA TTGGCACCAC CTCGTGTCAC     1680

AACAATATCA GCCAATTCCA TCAAGGGTTG ATAGAGATCG GTCACATAGT CAACACGAAA     1740

AAGATTTTGC CTCAACTCAT TCAGACTAGA ATCTCCAGTT AGATTGATAA TATTGTAGCG     1800

CTCTGTTAGT TCTTTCTTAT GGTCTGTCAC CAATTGGTTA AAGACACGAG CGCCTGCAGA     1860

ACCGCCAACA AACAATACAG TTGGCAATTT GGGATTAAAG TGGGTTTGAA TATCCACCAA     1920

TTCATCTGGT TCTGGAGTGT TTTTGTCCGA AACCTTGGTC ACCGCTCCCA CATGCTCAAC     1980

CTTAGCCAAA CTCGAAGCTT GTTCAAAGGT TGAATACATC TTAGTCGCAA ATTTATAGGC     2040

GATTTTATTG GCCAAGCCCA TAGACAGGTC AGATTCGTGA ATAAAGACAG GCACTCCTGA     2100

CACACGCGCA GCGATAACAG GCGGTACTGA GACAAAGCCC CCCTTTGAAA AAAGGGTCTG     2160

TGGACGCAGT CGCAACATGA TAAAGAGCGA TTGGACAATT CCCCAACCAA CTTTGAAGAC     2220
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1165

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GTCCAGCATA TTTTGCCAAG AGAAATAGCG ACGCAATTTT CCAGTCGCAA TAGAATGGAA        2280

GGTGACATCC AAACCTGACT TAAGGATTTC TTGGTGTTCG ATACCACACT TGTCCCCGAT        2340

ATAGTGGACT TCCCAACCAT CTTCGATGAA CTTGGGCATT AACAAAAGAT TGAGGGTAAC        2400

GTGTCCAACC GTCCCCCCAC CTGTAAAGAC AATTTTTTTC ATATTATTCT TTTAACTCCG        2460

CTACTGTGTC GATAAAGAGG TCGCCACGTA CTTCAAAGTT AGCATACATA TCCCAGCTAG        2520

CATTGGCAGG ACTAAGAAGA ACCACATCTC CTTGAGTCGC AAGCTCATAG GCCTTGCGGG        2580

TCGCATCTGC AATATCTGTC GCCTCCACAT AAGCGACACC AGCCTTGTCT GCTGCCCGTT        2640

TGACACGTTC TGCAGATTGA CCCAGGATGA CCATCTTCTT GAGTCCAGTA ATGTCTGGCA        2700

CCAATTCGTC AAACTCATTG CCACGGTCCA AACCACCTGC AATCAAGACG ACCTTGCTGT        2760

TGTCAAATCC TGACAAGGCT TTTTGAGTAG CCAAGATATT AGTTGATTTA CTGTCGTTAT        2820

AGAATTTAAC ACCCTTGATG TCATCCACAA ACTGGAGACG GTGTTTGACA CCACCGAAGG        2880

CTGAAAGAGT TTCCTTGATG GTTTGATTGT CCACATCACG AAGCTTGGCT ACAGCAATAG        2940

TCGCAAGGGC ATTTTCCACA TTGTGGCTAC CTGGAACACC GATTTCATTC GCTGCCATGA        3000

CTACTTCACC ACGGAAGTAG AGTTGACCAT CTTCCAGATA AGCTCCATCA ACCTTTTCAA        3060

GTGTTGAAAA TGGTACAACA GTGGCTTCTG TCTTGGAAGT CAAGTCTTTT GCCAAGTCTT        3120

GATTAAAGTT CAAGACAAGG AAATCAGCTG CTGTCATCTT GTTCTGGATA TTCCACTTGG        3180

CTGCTACATA TTCCGAAAAT GACCCATGGT AGTCGATATG AGTTGGCATG AGGTTGGTAA        3240

TAACCGCAAT CTCTGGATGG AATTCTTGAA CACCCATGAG TTGGAAAGAA GAAAGTTCCA        3300

TAACAAGCGT GTCCTTATCT GATGCTATTT GAGCAACCTG ACTAGCTGGA TAGCCGATAT        3360

TCCCTGATAA AAGACCATGT TGGCCAGCAG CAGTCAAAAC TTCCCCAATC ATAGTCGTTG        3420

TGGTTGTCTT ACCGTTCGAT CCTGTGATAC CAATAATCGG TGCTTCTGAA ATCAAATAAG        3480

CCAATTCCAC CTCAGTCAAG ACTGGAATTC CCTTGGCCAA AGCCTTTTCA ATCATGGGAT        3540

TGTTGTAGGG GATACCTGGA TTTTTCACCA TAAGGGCAAA CTCTTCATCC AAGAGTTCCA        3600

AAGGATGGCC ACCTGTAATG ACCTTGATCC CTTCTTCCAG CAAACTTTGG GCAGCTGGAT        3660

TGTCCTCGAA AGGTTTCCCA TCATTTACTG TCACAATGGC ACCTAGCTTG TCCAACAAAC        3720

GAGCTGCAGA TTCACCAGAC TTGGCCAAAC CTAAAACAAG GACTTTCTTA TTTTTAAATT        3780

GATCTATTAC TTTCATGTCT CGAACTCCAT TTCTACTCCT ACTATTTTAC CATTTTTATG        3840

GAAATAAAAA AGCCACAAAG TGTGTTTGTG ACTCTTTCTT CTAACTGAAT CTTACCATAT        3900

CATCTATGTG ATAAATCGGT AACTCGAATG ACCTGATCCA CTTGCTCCCA AATCAGAGGA        3960
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1166

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TTATGGGTCG CAATAATAAT GGTCCGATTC GGATTTTTTA AAGATTCTAG GATGGAAAGT    4020

AATTCCTCAG AGTTTTTGGG GTCTAAGGAA GCGGTTGGTT CATCTGCGAG GATCAAAGGT    4080

GGATCCTTTA AAATTATCTT CGCTAGTGCA ACACGTTGTG CTTCTCCTCC TGATAACTCA    4140

AATATAGGTT GCTTCAAATC CAAATAAGAG AGGTTTACAC GGTTTAGAGC TTGTTTCATC    4200

AAAGAGATTT TCTCTTTTTC CTTCAACTTT TTACCAACTA AACCCAGATT GAGATTCTCT    4260

TTGACGGTTT GGCTTTCAAT TAAGCCAAAA TCTTGAAATA AGTATCCTAA GTAATCTCTA    4320

AAGAAAACAG AAGGCTTGAT GTCCTTAAGA GAAGTGCCAT CATAGATGAT TTGCCCTTTG    4380

TCATATGGCT CCAATCGTCC AATCATATTC AAGAGTGTTG TCTTACCACA GCCACTTGTA    4440

CCGATTAAGG CATAAATTTT CCCACCTTCA AAATGAAGAT TCATATCTGA AAATAGCTGA    4500

CGGCTTCCAA ATTTTTTAGA TATATTCTTT AGTTCAATCA TCCTATTTTC CTTTCATAAT    4560

TGTCATAGAA ACACGAGATT CTTTCTGCGC TTGACGGTAA AGCGTCAAAA CTGCACTAGC    4620

TAGAAAGACC AATAAAGTGA GCAAGCCAAT CACCAAGTCT CGACTGCTTA AAATAAAGAG    4680

ACTAGCACCA AATACAAAAC TAGCAAATTG GCTAACCATA TACTGAGCAT GTGTTTCAAA    4740

AAATCGTAAA CCTGAAATTC GTTTAATCAA GATATCTCGG CGGAATTGCT CGAAATATAG    4800

AAGATTGACA GAATAAAAGA GTAACAAGGA ACTGGCTATT CCAACAATAG CTCCTAAGAT    4860

TAAAGTTGCT GTTTCAGTTT GAACTTCATT ATAACGAGTT AGATAAACAC TTCTTCCTTC    4920

TTTAAGATAG GATACTTGCT CATAAATTCC AGCTTTCTTC AAGAGTTCTA GCCCACTCTC    4980

ATATCCTTTG ATAAAGAGTT GTTTTCCAGC ATTGATAGAC CAACTAGATA AGGATATAAA    5040

ACTATCACCT GTAGAAGTCG GCGTGAATAC CACTAAAATC GGATCAGTCA AATACTGAGT    5100

AGATACGGGA TTCTCACCGT TATTATAAAC AAACCGCTTT TCTCCCATTG AAAGATAACT    5160

AACGTGCGCT TTCATCTCAT AATCCAAAGG AGCACTTGCC TCCTCACCAG ATTTTCCATA    5220

ATAACTCAAT CTTTCTTCAA AAACTTTCTT AAGTTCTGCT TCTCGAGAGC·GCAAATGTTC    5280

TGGGAGCAAG AGGATAAACT CACCTTTTTG GAGATGGGCT AACTTCTGTT TGGTCTCAGC    5340

ATCTACCACG ACCTTTTCCT TGTCCAAATA ACTGGGACTA ACATAGAGCG TATTAGCATC    5400

TGAACTATAG GTATCCAGTG TCTCTCCCTG TTCATTTTTT CCTTGTGGAT TGGCAAAATG    5460

GAGCAGATTA TCCTTTACAT AAAGAGCTTG TTCTTCTTCG ATTGCTTCCT TGGCAAAGGC    5520

ATACCACTTG CTCTGATTTT CTGTATCTTT TCCTCTATCA CCTAAGCCAA AGGAAATCTG    5580

GTAATAGTCT GCTCTGTCCT GCCATGCTTG TTTTGAAATT TCAAGTTCTT TCAATCGTTG    5640

GTAAGACGTC AAACCTGTCT TAACAGCGTA GCCTACTGTA AAAACAGCTA CTAACTGACA    5700

CAATAGGGTT AAAGCCATCA AGCGTTTAAG GGGTAATCTT CCCTTAATAA CGGGAACTAA    5760
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1167

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TGCTTTGTAA CTCAAACTCA TTAGGTAAAG GAGCATTAGT AAAATTGAAA TCGCCAATAA     5820

AAACAACAGA TAGAAACTAA TCCCAAAACC ATAGGTGGCT AACAAGATAG GATAAAACAA     5880

ACCTTGACTA AAAAGAACGA CTCCCCCACC TAGGAAGGAA AGGAGGGCTG ATAGAAGGAG     5940

CCATTTGATA TCAGTAGATA AAGAATGCCC CATGATGGAT AAGAGAGTCT GACCAGAAAA     6000

GAGTTTTATA CCTGCTGCTC TCATTTCCTT AATCCGAGTG ATAATCACTA AAGCAAAGAA     6060

AGATAAGCCA AATATTGCTA AACTAATTAA AATAAGGGGA TTTAGTAATA TTCGAAAAGC     6120

AAGAAAATAG GGCGGTATCT TTCGGTCAGC ACTTGCTTTA TAACCCAAAT CTCCTAATTT     6180

ATCGGCAAGC TTTTCTTTCG TCAAGGAGCC TGACAAAAGG AGATAACTAT TTAGCGGAnT     6240

AtACGTTCAC GACTTTCTTG GCTAGCTTCT TGGAATTCTT TTGGTAAAGT TCCCTGACCA     6300

TAAGTTGCAT AAGTAAAGTG AGTCGTCCCA TCCTTACTCG GCTCTACAAT TCTTCTAGCT     6360

ATTAAACTCT GTTCTGAGTT TGCAAAATTC TCCAATTCCT GTTCAAATAC CTCACGCGTC     6420

GGTTCCTGAG TATCTTTTTT GACACGAAGT AAAGAAACGG AATCATAGCT TGCATATAAA     6480

TATTGTGGCG CACGTAAGAC AATAATCCAA GCAAGGAAGA AGCTGAGAAA AAAAGTTGAT     6540

AATAATATGA ATAGTTTCTT CATAGTAGAC TCCTTGTAAA CAAAATTCCC CCTGTAATTT     6600

CTTACAAGGG GAACGATTTA AATCAATGAA CGATTAGTCA TAATCACAGT AAAATGCTAC     6660

TTGTTCTCCC CATTTAGTCC AAATCCATGC AGG                                 6693
```

(2) INFORMATION FOR SEQ ID NO: 196:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 1847 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear


    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 196:

```
CCGGTCTATG TACCCACTAC TTTGGGACAA TATGGGGATC AGCTACCCAA AACTAATCGA       60

GCGTTTGGTT GACCTTGCCA AGGAAAGTTT TGACAAGCGC GACGATTTGA TATAAAATGA      120

AAGAGAGGGT AGAAGCCAGA ACCATCACTG CACGGTGACT AGAGTTCTCG GACTTCAGCC      180

CTTTTTAAAG GAGTAGAAAT GAAATTAACA ATCCATGAAA TTGCCCAAGT TGTTGGAGCC      240

AAAAATGATA TCAGTATCTT TGAGGACACC CAGTTAGAAA AAGCTGAGTT TGATAGTCGT      300

TTGATTGGAA CTGGAGATTT ATTTGTGCCA CTTAAAGGTG CGCGTGATGG CCATGACTTT      360

ATTGAAACAG CCTTTGAAAA TGGTGCAGCA GTAACCTTGT CTGAGAAAGA GGTCTCAAAT      420
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                                       1168
     CATCCTTACA TTCTAGTAGA TGATGTTTTG ACAGCCTTTC AATCCTTAGC ATCCTACTAT      480

     CTTGAAAAAA CGACTGTTGA TGTCTTTGCT GTTACAGGTT CAAATGGCAA GACAACGACT      540

     AAGGATATGT TGGCGCATTT ACTGTCAACA AGATACAAGA CCTACAAAAC ACAAGGCAAT      600

     TACAATAATG AGATTGGCCT TCCTTACACA GTTCTTCATA TGCCTGAAGG AACAGAAAAG      660

     TTGGTTTTGG AGATGGGACA GGATCACTTG GGCGATATTC ATCTCTTGTC TGAATTGGCT      720

     CGTCCAAAAA CAGCCATCGT GACCTTGGTT GGAGAAGCCC ATTTGGCCTT TTTCAAAGAC      780

     CGTTCAGAGA TTGCTAAGGG AAAAATGCAA ATTGCAGACG GAATGGCTTC AGGTTCCTTG      840

     CTTTTAGCGC CGGCTGACCC TATCGTAGAG GACTATTTGC CAACTGATAA AAAGGTGGTT      900

     CGTTTTGGGC AAGGGGCAGA GCTGGAAATT ACTGACTTGG TTGAGCGCAA AGATAGTCTG      960

     ACCTTCAAGG CCAATTTCTT AGAGCAAGCC CTTGATTTGC CAGTAACTGG CAAGTACAAT     1020

     GCGACAAATG CTATGATTGC ATCCTATGTT GCCTTGCAAG AAGGAGTTTC AGAGGAGCAA     1080

     ATTCGTTTGG CCTTCCAAGA TCTTGAATTG ACGCGTAACC GTACCGAGTG GAAGAAAGCA     1140

     GCCAATGGAG CAGATATCCT GTCAGATGTT TACAATGCCA ATCCAACTGC TATGAAACTG     1200

     ATTTTAGAGA CTTTCTCTGC CATTCCAGCC AATGAAGGTG GCAAGAAAAT TGCAGTGTTG     1260

     GCGGATATGA AGGAGCTTGG TGACCAGTCT GTTCAACTTC ATAATCAGAT GATTTTGAGC     1320

     CTTTCTCCAG ATGTGCTTGA TACCGTGATT TTCTATGGAG AAAATATTGC TGAATTAGCC     1380

     CAATTGGCCA GTCAAATGTT CCCAATCGGC CACGTTTACT ACTTCAAGAA AACAGAAGAC     1440

     CAGGATCAAT TTGAAGACCT AGTCAAGCAG GTCAAGGAAA GCCTTGGAGC CCATGACCAA     1500

     ATCCTGCTCA AAGGCTCTAA CTCTATGAAT CTAGCCAAGT TGGTAGAAAG TTTAGAAAAT     1560

     GAAGACAAGT GATTTTGTCA AGTATTTGCA AAGAATGATT GCCATTACAG ATACTGGCTT     1620

     AACCTTTACA AAAGATCCGT TTGACCGTGA GCGCTACGAA GACTTGCGAA GTCTGTTATC     1680

     TGAAATGTTG AATCAAGCAT CAGACCTTGA TTCCGAAGAA GTGGCAGAAG TCTTGAAGCC     1740

     AACTTCTGCT TATGCGACTC CGTTAATGGA CGTCCGTGCT TGGATTGTTG AGGATGAGAA     1800

     GATTTGTCTG GTTAGGGGAC AAGGAGAGGA TAGTTGGGCT TTGCCGG                   1847
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    (2) INFORMATION FOR SEQ ID NO: 197:

        (i) SEQUENCE CHARACTERISTICS:
            (A) LENGTH: 1062 base pairs
            (B) TYPE: nucleic acid
            (C) STRANDEDNESS: double
            (D) TOPOLOGY: linear


        (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 197:

1169

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CAAGCGAAAA CATTTTTTAT TCCAAATAAA CAGAGCATTT TAGGAGAACA AGAGATTTTG        60

AATGCCAAGT CGATCTTGGC CTTGCTAGAC GGTTTGGAGT CACATAGCTA TGATGTAGTC       120

TATCTCCGTC AGCCTCTTAA TCGTCTCGAA TATATCGAGT GTGCGATAGT GGGGCAATCA       180

CAATTTCTCT TTAAGGTCAG TTATGCTGAT GGTCAAAAGG CTTACCGTGT CGATCTTCCT       240

GACCTACTAA CAAAGACAGA CTGGCAGATT ATCAAGTCAT TTTTAGATGC TTTGCTTGCT       300

TATACAGGGA CTGATATTGA AGGGCTAGAT GGTTTTGATT TTGAAGCTTA TTTCCAAGCA       360

AGTATTCAAG CCTATCTAGC AGACCCTGTA GCTCGTTTTA CGATTTGCCA AGGAATTTTT       420

AATCCTATTT TCTTTAGTCG TGAGAACTTG AAAAGCTTTT TAGAGGCAGA TGGCTTGGCT       480

CAGTTTGAAG CGCGTGTGCG TGCGGTTCAA GAGACAGATG CCTACTTTGC GAGAGTTTCC       540

TTCTATCAGG ATGGAGAAGG AAAAGTGCAT GGCGTTTACC ATCTAGCTCA AGGAGTCAAG       600

ACAGTTTTAC CGAGAGAACC GTTTGTTCCT GCAGCCTATA TTGAGCAATT GGTGGATAAG       660

GAAGTCCAGT GGGAGATTGA CTTGGTTCAA ATCACAGGAG ATGGCTCTAA ACCAGAAGAC   ·   720

TATGAAGCCA TTGCTCGCTT GGACTATGCA AAATTCTTAG AGGTATTACC CCCATCTTTT       780

TACCACCAAC TAGACGCCAA TCAAATAGAA GTGCAACCCA TATTAGACAA AGATTTTAAA       840

ACATTAGCAC AAGAAAAGTA AAGCAGAAGC AGGTCAATCG ACTTGCTTTT TTGACATAGA       900

AAAAATCCTG CCAAGaTGAC AGGATTGCTA CTCAATGAAA ATCAAAGAGC AAACTAGGAA       960

GCTAGCCGCA GCTGTACTTG AGTACGGTAA GGCGAAGCTG ACGTGGTTTG AATTTGATTT      1020

TTGAAGAGTA TGAAGTTTAA AGAAAAGCCA AGATACGAAG AT                        1062
```

(2) INFORMATION FOR SEQ ID NO: 198:

      (i) SEQUENCE CHARACTERISTICS:
          (A) LENGTH: 6846 base pairs
          (B) TYPE: nucleic acid
          (C) STRANDEDNESS: double
          (D) TOPOLOGY: linear


      (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 198:

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TATCTACAAC CTCAAAAACA TGTTTTGawG gCTCGTCAGT cTATCTACAA CCTCAAAAAC        60

ATGTTTTgAa kGCtcGTCAG tTCTATCTAC AACCTCAAAA ACATGTTTTG AcaGCcTcGT       120

CAGTTCTATC TACAACCTCA AAAACATGTT TTGAGCTGAC TTCGTTAGTT TCATCTACAA       180

CCTCAAAAAC ATGTTTTGAG CTGACTTCGT TAGTTTCATC TACAACCTCA AAAACATGTT       240

TTGangnCnT CGTCAGTTCT ATCTGCAACC TCAAAGCAGT GCTTTgagcG CTTCGTCAGT       300
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1170

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TCTATCTACA ACCTCAAAAC AGTGTGTTGC GCAGCCTTTA ATCAGCCGCC TAGTCCGCTC      360

TATGGTATTC ATTAAGTCAA CATCTCTTGT TTAAGAGCAC CAAATCAGGA AATCTTCTCG      420

ATTCCCTGAT TTTTTCTATT TACGTTTTCG TGTTGAGCTA CGTTCTGTCA AACCATGAGG      480

TAAGAGAACT TCACGTTCTT CCAACTCTTC CTTATGCATA ATCTTGGTCA ACATACGCAT      540

ACTAATGGCA CCAAGGTCAT AAAGAGGTTG GGCAATCGTT GTCAAGTTTG GACGGGTAAA      600

GCGTGAGATT TGTGAATCAT CACTAGTAAT AATTTCAAAA TCTTCTGGCA CAGAAACACC      660

CTTATCAGCC AAACCGTTCA AGACTCCTGC TGCCAACTCA TCACCTGTCA CAACTGCTGC      720

AGTTGCATTT GATGAAATCA AACGCTCTGC TAAGGCGTAA CCATCATCAT AGCTATATTT      780

AGATTCAAAT ACCAAACCCT CACTATAAGT GATTCCTGCT TTTTTCAAGG TTTCCTTGTA      840

GCCAACTAAA CGAACCTTAC CATTGATGTC ATCCACTAGC GGACCGCTAA CGAAAGCAAT      900

ACGCTCATTT TCTTTAGCAA GGTAACTCAC TGCATCAATT GTTGCTTGCT TATAGTCAAT      960

ATTGACACTT GGCAACTGGT GCTCAACATC GACAGTTCCT GCGAGAACAA TCGGAGTACG     1020

TGAACGCGAA AATTCTGAGC GAATTTTATC TGTCAAGTGA TACCCCATAT AGATAATGCC     1080

ATCTACCTGC TTTGAAAAGA GGGTATTGAC AACAGAAACT TCTTTCTCGT TATCTTCATC     1140

GCTATTAGCT AGGACAATAT TGTACTTGTA CATTTCTGCA ATATCATCAA TCCCCTTAGC     1200

CAAACTCGAA AAATAACCAT TGGTAATATT TGGAATCACG ACACCGACAG TGGTTGTCTT     1260

TTTACTTGCA AGACCACGCG CAACTGCATT TGGACGATAA TCCAAACGAT CAATTACCTC     1320

TAGCACTTTT TTACGGGTAT TCTCTTTTAC ATTTTTATTG CCATTGACCA CACGGCTGAC     1380

CGTCGCCATG GAAACACCTG CTTCACGAGC GACATCATAA ATGGTTACTG TATCATCTGC     1440

ATTCATTCCT TTTCCTGTCC TTTCTATCTC ACACATTCTT TTACAAGTAG AGGTACTGAT     1500

TGAAGCTCTA TATCTACTTA CAAAAGTGAA GATGTGAAAA TTTCGTTTTC ATATTTCTAC     1560

TTATTCCATT CTATCACTAA TTGTAAACAC TTTCAAGTGT TTTTTGAAGA TTGATTGAAA     1620

AAATTTCATA GAAAACCTAG GTTTAGCTCC TTGCTACCAC CTTAGACTAA ACAAAAAGGA     1680

GGAAACTAAG CCCTCCTAAA GTTATAGTAA AATGAAATAA GAACAGGATA AATCGATCAG     1740

GACAGTCAAA TCGATTTCTA ACAATGTTTT AGAAGTAGAG GTGTACTATT CTAGTTTCAA     1800

TCTACTATAG GTATTGTTCC ATTCACTACC GTCAATTTTA GCACATAGTC TTCATGAAAA     1860

TATTATATCA TCATAACCAA CCAGATTCTT TCGCGATATT AGCTGCCTCT GTTCGATTAC     1920

CTGCATCTAG TTTCGAAAGA ATATTGGTGA CATAGTTTCG GACTGTTCCG TTGGATAGAT     1980

AAAGTTTGTC TGCAATTTCT TGGTTAGAGA AGCCCTGAGC AATTCCCTTT AAAACTGCGA     2040

TTTCTTGCTC CGTTAATGGA TTGGGATGCA TCATCACCAC TTCCATCAAT TCAGGCGAAT     2100
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1171

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ACTCCTTGCG TCCTTCGAGG ACGGTGTGCA AGGTTTGCAT GAGGTCTGCA ATGTTTCTTT     2160

CTTTTAATAC ATAAGCATCT ACTCCAGCCT TGACCGCACG TTCAAAATAC CCAGGACGCT     2220

TGAAGGTCGT CACCACAACC ACCTTTGTTT CAAGCTTTTC TGCTCGTATC CACTCCAAGA     2280

CTTCAAGACC TGTCTTAACA GGCATTTCTA CGTCAAGGAT GGCGATATCT ACAGACTCCT     2340

TTTCTAATAG TTGGATTGCT TCTTGCCCAT TCTTGGCTTG AAAGACAGAC TCTACATCCG     2400

GTTGAAGCAT GAGCAACTGG CACATGGCAT CTCGCAACAT ACTTTGATCT TCTGCGACTA     2460

ATACTTTCAT CTACTTTCTC TCCTTATAAA GTAGTCGAAC CTGCACTTCA GTTGGATGTT     2520

TCTGACTGAT TACACTTACT TCTCCTGAAA ATGGAAAAAC ACGATTTCGG ACTGTATGGA     2580

GCTCATCCCC GCTTATAGAG GCAAAGCCAC AGCCATCATC TCTCACTGTT AGAATGAGTT     2640

CTTTCTCTGT CCGTTCTAAT TTCAAGTAGA CTTTAGACGC TTTAGCATGT TTGATGATAT     2700

TGGTCACTAA TTCAAGCAAA ATCATGGAAG CCGTTGACTC CAATTCCTGA GTTAAGCTAG     2760

ACTTGTCCAA GTGATTCTCA ACTTGAACCT CAATTCCAGC AATTTCTAAC ATCTTTTTCA     2820

CAGTCTCTAG TTCGGATGTC AAAGTTCTAG ACTTAAGATT TTCCACAATG GTTCGCACTT     2880

CATTCATGGA tCCTTGCTGA TCTGGTGAAT TTCTTTTAAT TCCTTTTCCA CCTGTGGATA     2940

AGCCTCCATC TGAAATAACT GCAAGGCTAA ATCTGTCTTG ACACTCAGCA TAGCAAAGGT     3000

ATGTCCCAGA CTATCATGCA AATCCTGACC GATACGACTA CGTTCATTTT CAGCAAGCAA     3060

TAGATTTATC TGAGCATTTT GCTTGACCTG AGCTTCTTTC AAATCCTCGA CAATACGAAT     3120

CCGAACCAAT CCAAAAGTCA TTAAATCGAC AAAAGTAAGA ATTACAAGTA GATAGAATAG     3180

AAACTCAACT TCGATTCTCT GAAAAATCAA CAGTTGCCCC ACAACAAGGA CTTGAGCAAG     3240

AAGAAAAGTC CAGACATGTA AAGACTTTAA ACTACGTACG CTGAAATGAT AACTTAAGAG     3300

ATTGGATAGG AAAAAGAAAA ACCAGATATA ATTAACAGCA ACAAAGGCAG TATTCCCAAC     3360

TACATAAGTC AGCATGAGGC CCCAATATAG CCAAGATAGG CGCTGGCTCT TAGTTGTTAA     3420

AACACCCAAA TATGCCACTA CAAATAGAAT ATCAATCAAT AAATGCCAGG CAGAAAGCCA     3480

CCCAGTCACT ACAGACAGGA TGGGGAAAAT CATAAAAATT AAACTGATCC AAAACATATA     3540

ATGTATTCTT TTCAGTCTTT CAAGCATTAA GCATTCTCCT TATGACCTTG AAGGTAAATG     3600

GTCAAACCAA ACAAAACTAC TGAAAAAACA AGTAAATAAA CTGTGGCTGA TAGATTGATG     3660

CCACCCTCAT TTAAGAAGGT CTTGAGCAAC TCCATCAACT GATAGGTCGG GAGACACTTA     3720

CCTACTACTT GCATCCAGTC TGGAAATAAA GAGATAGGCA TCCAGAGTCC ACCTAAAACA     3780

GCCAACCCTA GATAAAGAAG ATTGCCCACG ACAGACATCA ACTGACTAGT TGGTAAGAGA     3840
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1172

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GTCAAGGTCA AACCAAGCGC TACGAAGGCA ATACTTCCTA CTATCAGCAA AAGTGCAGCC    3900

CCAATCCAAT TTCCAAGAGA CATGTCCACA CCTCTTACAA AATGCCCAAC TGAGAAAACC    3960

ACCAAGATTG AAACCAAATA ATCAACCAGC ATACTTGTTA TCTTTGATAG ATAATATTCT    4020

ACCATATTTA CAGGGCTATG ACGCAATGTT TTCTGCCAGT TGTTGATCTT GTCGGTATGT    4080

AAAACAACTG GGAATGAGAA GATAGCTGTT GACATCATGG AAAATGCAGT CATGGAGATA    4140

AGATAATCAC GCATAAAATT CGCGAGTTCA CCTGGTGTGT CCTGATAGAT ACCAGAAAAA    4200

AATAAATAGA AAGCCGTCGG CATCCCTACT GACAATAGAT AATAGATCAA TTGTCGTTTG    4260

GTCAATAAAA ATTCTATCTT ACTAAGTGCT AGCCATCGTT TCATCTTAGT TATCTCCCTT    4320

CTGCGTTTCT TCAAAGATTG TATCCAACAA ACTACGATTA TTAACTTCAA TTTCTTGTAT    4380

GCCACATCCT GCTTGAACTA ACAGTTCCCA AAAAGCATCT GCTTCGCGTG TGACTACTTG    4440

TAGAGCATCC TGTTTTTGTG ACCAGTTTTC AACCAAGTTA GACTGCTCAA TGACTTCCTT    4500

GTATGCCAGA GGAAGGATAA AATGCTTTTC AATTCCCTCA CTACGCATAG CTAGAGGCGT    4560

CGTATCACGA ATCAACTCTC CCTTATTTAA AACCAAAATC CGGTCAGCCG TATGCTCTAC    4620

CTCTTCAATA TAATGAGACG AATAGAGAAT CGTGACTCCT TGCGCTTTTA GGTCCCGAAC    4680

GATTTCCCAA AAGCGTTGAC GAGTTGAAGT ATCCATGGCA GCAGTTGGTT CATCTAAAAA    4740

GACAAGCTTT GGTCGCCCAA TCAAGGTCAA GACAAAGAG AAGAGACGCT TTTGCCCGCC    4800

TGACAATTTT TCTGCGAATT GCTCTTTTTG TTGCTGGTCA AACTGCAATA GTTGATCGAT    4860

TTCCTGATCG CTCAAGGAAT TTGGATAGAT ACGTTGAAAG AAAGCAATCA ACTCTTTGAC    4920

CTTTAATTTC TGAACGATGA CATTTTCTTG AGGCAGATAA CCTCTAATAT AGTCTAACTG    4980

AGAACTCGTC ACTGACAAGC CTTGGATGGA TACTTGACCG CTTGTGACCA GTTTATCTCC    5040

AAGCAGACAG TCCAAGAGTG TGGTCTTCCC AGCACCATTG GGCCCAATCA AGGCGACGCA    5100

TTCACCTTCA GCTACCTCAA AGGAAATACC CTTCAAAATA GCCTTGCCCT TGATGTTTTT    5160

ATTTAGGCTT TCTACCTTAA TCATATTCAT GATATTCTCC TTTCAACCAC TCCATTCTCA    5220

TAAGGAAAAC GACGAAAATC ATAAATCCAA ACCCCAAAGC ACCACGAATG AATTGGCGAA    5280

gCAAGGTTTG GTCAAACCAA CCTGTAAACA TTTCCACTAA CCATACCAAG AGTGACAGGC    5340

CGATAAAGAA ATAGATGATC CCTCTCTTCA TTCCTCAAGC TCCTTTTTCA CATCTCCGAC    5400

TAATTTCAAA CCTTCTCTAA CAAGCCAAGA CATCATTCCA AAGCCAGCAA AGAGCTCCCA    5460

AGGAAAATGA TAGAAACTCT CATCCAATCC CGAAAACATG AGTTAGGTCA TAACTCCTGC    5520

TACTACTAAA CTCACTGCGA TAATCATTTT ATTTCTCATC TCTTCTTCCT CCATTTCATA    5580

CTACAATTAT AGTCTTTTGA AATCAGAGGA GACAGAAGCT TCTGTCACTA GAAAATATGA    5640
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1173

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CAAATGTCAT AAAAAATTCT GTTCAAAACA AGCAAGATAC ACTATACAAT AAAACACAAT        5700

TAGAAAAATC TAAGGCAACT TCCTCAAAAG AGATATCAAA CCCAATTCAC ACCATAATGT        5760

AAACTAATAC TTATTTAAAA TCAAAAAGAG TAGAAATTTT TATCAGACAA ACACATATAT        5820

AGTGTATTGA ATCTATAACA GTAGGCCTTA AATACTAAAA TATTTCTATA AATTAATTTA        5880

ACTTTCCTGA TAGAGCTGTT CATATCTTAT TTCAATTCTC TAAATTATAC GTTGAACAAA        5940

ACCCTTCTAT TTCTTTCTTA AAGATTTATA AGAGTTATAA AATCTGTTAA ATTTCAATGT        6000

GTATACCTAA ACTACGGTAT TTATTGAAAA GACTGGAGAC AAAAAGTATA CGCTGCCAAA        6060

ATGAATTACT GAAAATCAAA AAAGAGAGAA CCAAACTGAT TCCCTCTTAA TGTATATAAT        6120

ATCTAGTTTT AAAAATACAC ACTCACATAT CTCTGTAATG AATCGGGAAG ACAGGATTCG        6180

AACCTGCGAC ACCTTGGTCC CAAACCAAGC ACTCTACCAA GCTGAGCTAC TTCCCGAGTT        6240

AAATAGAAAA ATGCACCCTA GAGGAGTCGA ACCTCTAACC GCCTGATTCG TAGTCAGGTA        6300

CTCTATCCAG TTGAGCTAAG GGTGCTCCAT ATTATGCCGA GGACCGGAAT CGAACCGGTA        6360

CGATCGTTAC CAATCGCAGG ATTTTAAGTC CTGTGCGTCT GCCAGTTCCG CCACCCCGGC        6420

CTCTCTAAGC GAACGACGGG ATTCGAACCC GCGACCCCCA CCTTGGCAAG GTGGTGTTCT        6480

ACCACTGAAC TACGTTCGCA CTGTTTTCTT CTATCTAAAA ATGCCGGCTA CATGACTTGA        6540

ACACGCGACC CTCTGATTAC AAATCAGATG CTCTACCAAC TGAGCTAAGC CGGCTCATTT        6600

GTTATATCTT AATGCGGGTT AAGGGACTTG AACCCCCACG CCGTTAAGCG CCAGATCCTA        6660

AATCTGGTGC GTCTGCCAAT TCCGCCAAAC CCGCATATAT GACCCGTACT GGGCTCGAAC        6720

CAGTGACCCA TTGATTAAAA GTCAATTGCT CTACCAACTG AGCTAACGAG TCTAAAATAA        6780

cTTGCGTTAC CTTAAACGGT CCCGACGGGA ATCGAACCCG CGATCTcGCC GTGACAAGGC        6840

GACGTG                                                                 6846
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(2) INFORMATION FOR SEQ ID NO: 199:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 2911 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear


    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 199:

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GAATTCATTT TAAATAAAGA TACGGGAGAG GTAAGTGAAT TAAAACCTCA TAGGGTAACT          60

GTGACCATTC AAAATGGAAA AGAAATGAGT TCAACGATAG TGTCGGAAGA AGATTTTATT         120
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1174

```
TTACCTGTTT ATAAGGGTGA ATTAGAAAAA GGATACCAAT TTGATGGTTG GGAAATTTCT     180

GGTTTCGAAG GTAAAAAAGA CGCTGGCTAT GTTATTAATC TATCAAAAGA TACCTTTATA     240

AAACCTGTAT TCAAGAAAAT AGAGGAGAAA AAGGAGGAAG AAAATAAACC TACTTTTGAT     300

GTATCGAAAA AGAAAGATAA CCCACAAGTA AACCATAGTC AATTAAATGA AAGTCACAGA     360

AAAGAGGATT TACAAGAGA AGAGCATTCA CAAAAATCTG ATTCAACTAA GGATGTTACA      420

GCTACAGTTC TTGATAAAAA CAATATCAGT AGTAAATCAA CTACTAACAA TCCTAATAAG     480

TTGCCAAAAA CTGGAACAGC AAGCGGAGCC CAGACACTAT TAGCTGCCGG AATAATGTTT     540

ATAGTAGGAA TTTTTCTTGG ATTGAAGAAA AAAAATCAAG ATTAAGATAA AAGCTATAGA     600

AAAAAATGGT TTATGTACTG AGATTAGATA GTGAGGTGAT GACATAGTTT TGTGAAAATA     660

GCCATTTATA ACTCAATTAT TTAGTTTACT TTACTTTACT AGTGATACTA TTTGGAGTTA     720

TTAATGGACT TAGTTTATAT AACTAATGAA TTGATTGAAA GGGTTAGTAT TGACAATATT     780

GGTCATATTG ACTAGAAAAT AGAGTCTATC AAAATTTAAA GGCTAATAGA GGTGATGAGA     840

CAATTTCGGC TCTTTGTCAA CTGTAGTGGG TTGAAGTCAG CTAAGCTCGA GAAAGGACAA     900

ATTTTGTCCT TTCTTTTTTG ATATTCAGAG CGATAAAAAT CCGTTTTTTG AAGTTTTCAA     960

AGTTTCGAAA ACCAAAGGCA TTGCGCTTGA TAAGTTTGAT GAGATTATTG GTCGCTTCCA    1020

GTTTGGCATT AGAATAGTGT AGTTGAAGGG CATTGACAAT CTTCTCTTTA TCTTTGAGGA    1080

AGGTTTTAGA GGATGAACTT GATTCAGATT GTCCTCAATG AGTCCGAAAA ATTTGTCAGG    1140

CTCCTTATTC TGAAAGTGAA AAAGCAAGAG TTGATAGAGA TTATAGTGGT GTTTCAAGTC    1200

TTCTGAATAG CTCAAAAGTT TATCTATAGT AGATTGAAAC TAGAATAGTA CACCTCTGCT    1260

TCTAAAACAT TGTTAGAAAT CGATTTGACT GTCCTGAATG ATTTGTCCTG TTATTATTTC    1320

ATTTTACTAT AAATCCACGT TTACGAATCT CTTTCCACAC TTGTTCAATG GGGTTCATCT    1380

CTGGTGTGTA TGGAGGAATA AATGCAAAAC CAATATTAGT CGGAATCTTT AAGGTACTTG    1440

ATTTATGCCA TATAGCATTG TCCATAACGA GTAAAAGATA ATCATCTGGA TAAGCTTGTG    1500

AAAGCTCCTA TTCCTAAAGC CCCTTTATAA CCTCTTGCGA GAGAGACTAT TGACTCAGCC    1560

CTTACTTCAT GCGGATGAAA CTTCTTATCG GGTTCTAGAG AGTCATAGCC ATCTGACCTA    1620

CTATTGGACC TTTTTGTCTG GGAAAGTTGA GAATCAAGCA ATCACGCTGT ACCATCATGA    1680

TCAGAGTCGG AGTGGTTCGG TAGTACAAGA ATTCCTAGGA GATTATTCTG GCTATGTTCA    1740

TTGTGATATG TTGCGGCAGT AACTTAGGAC TTTAGTCCTC TAGTTCTGCC TATGCGATAG    1800

CAGTCCAAGG TTTAGGAGCA AGGCGACGCT AAGCTTGGTA AACTGCGAAC CGCTAGAAGC    1860

TTATCGTCAA CTGGAAGAAG CTGAACTTGT TGGATGTTGG GCGCATGTGA GAAGGAAATT    1920
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1175

TTTTGAAGCG ACCCCCAAGC AAGCAGATAA ATCATCCTTA GGAGCTAAAG GTTTAGCTTA        1980

TTGTGATCAG TTATTTTCCT TGGAAAkAGA CTGGGAGGCT TTGCCAGCTG ATGAACGACT        2040

ACAGAAACGT CAAGAACATC TCCAGCCCCT AATGGAAGAC TTCTTTGCTT GGTGCCGCCG        2100

TCAGTCAGTT TTAGCAGGTT CAAAACTAGG AAGGGCAATT GAATACAGCC TCAAGTATGA        2160

AGAAACCTTT AAGACTATTT TGAAAGACGG ACATCTGGTC CTTTCCAATA ATCTAGCTGA        2220

ACGCGCCATT AAATCATTGG TTATGGGACG GAGTAAAAGA GTCCAGTGGA CTCTTTTAGC        2280

CTGAGCTCAG TTTAAAAAAG CGAGGGTGGT TATTTTCTCA AAGTTTTGAA GGAGCTAAAG        2340

CAAGAGCTAT TGTTATGAGC TTGTTGGAAA CAGCTAAACG TCATCAATTA TAGTGCGTTG        2400

AATCTATAAC AGTACGCATC GACTGCTAAA ACATTTCTAT AAATCAATTT TCCTTTCCTA        2460

ATCGATTTGT TCATATCTTA TTTCAATCCA TTATAAATAG CGAGAAATAT CTATCCTATC        2520

TTCTAGAATG TCTTCCAAAC GAGGAAACTC TCGTAAACAA AGAGGTTTTA GAGGTTTATT        2580

TACCATGGAC TAAAGTTGTA CAAGAAAAGT GCAAATAAGA AATCTCCAGA TTAGGAACTA        2640

TCCGTGAGTT CACTAATCTG GAGATTTTTC AATAGAtTCG TTATTGGGCG GTTACGATAT        2700

GATcACTACT TCGTCAGTCT TATCTACAAC CTCAAAACAG TGTTTTGAGC AACCTGCGAC        2760

TAGCTTCCTA GTTTACTCTT TGATTTTCAT TGAATATTAG AACAGAAAAA ATGCTTGGAG        2820

TATTTGTTTG TGTGTTTATT TTTATATAAC AAACTATAAA CAAAATAAAA ATATAAAAAA        2880

AGAGACAAAA AAGAACAGAA AGTAATTGAC A                                       2911

(2) INFORMATION FOR SEQ ID NO: 200:

     (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 6854 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear


     (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 200:

GAAAATAAGT CTTGACAGAA AGCGCTATCA ATGATAGAAT GAATTCAGAT AAAAAGATTT        60

ATTTTTAAAA CAAAAATGAA ACGTTTCAAA AAAAGAAATA AAGAGACAGC GCCAAGCGCT        120

ATCTTTTCTA GAAAAAAATG AAACGTTTCA AAAAAGGAGG TTGCTATGAA TAGCAAAGCG        180

AAGCAAGTTT CTCTTTGGGA AAGAATCAAG AAACAAAAAC TCTTGTTATT GATGACTGTC        240

CCCGGTTTAG TTTTAACCTT TATCTTTAAA TACATCCCTA TGTATGGGGT TTTAATCGCA        300

TTTAAAGATT ACAATCCTTT AAAAGGAATT TTAGGGAGTG ATTGGATTGG TTTTTCTGAG        360

1176

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TTTACAAAAT TCATATCCTC TCCCAACTTT GGTATCTTGT TAGCCAACAC ATTAAAATTA      420

AGTATCTATG GTTTATTGCT TGGCTTTTTA CCACCAATCA TTCTCGCGAT TATGCTCAAT      480

CAACTCTTGA GTGAAAAAGT CAAAAAACGA ATTCAGCTCA TTTTTATACGC ACCAAACTTT      540

ATCTCAGTCG TTGTTATTGT CGGTATGATT TTCCTCTTCT TTTCAGTGGG AGGACCAATC      600

AACAATTTTC TTTCTATGTT TGGAATGAAG GCTGACTTCT TGACAAATCC AGACTTCTTT      660

AGACCTTTAT ACATCTTTAG TGGTATCTGG CAAGGAATGG GCTGGGCTTC AACGCTCTAC      720

ACGGCAACAT TGGTAAATGT AGATCCAGCC TTAGTAGAAG CAGCCCGACT GGATGGAGCC      780

AATATCTTCC AACGAATCTG GCACATTGAT ATTCCAGCTC TTAAGCCTAT TATGGTTATC      840

CAATTTGTTT TAGCTGCAGG TGGAATTATG AATGTCGGAT ATGAAAAAGC ATTCTTGATG      900

CAGACATCGT TAAATTTGCC AACTTCTGAA ATTATCTCGA CATATGTCTA TAAAGTTGGT      960

CTTGTATCAG GAGACTATTC TTACTCAACA GCGGTTGGTT TGTTTAATGC AGTGATTAAC     1020

GTAGTATTGC TTGTTGCAGT TAACCAAATC GTTAAACGCA TGAATAATGG TGAAGGAATT     1080

TAAGGAGGAA AGTATGAAAA ATTCGATTAT GGATACAAAA TTTGATACAC GTATCTTACT     1140

CTTAAATAAA ATCATTATTG TCTTTATCGT TTTGATGACT TTGCTTCCTT TACTTTATAT     1200

CGTCGTAGCA TCCTTTATGG ATCCTAAGGT TCTGGTTAGT AGAGGGATTA GCTTTAATCC     1260

AGCCGATTGG ACTGTAGAAG GTTACCAGCG TGTATTCAGT GACCAATCTA TTCTAAGAGG     1320

TTTTATCAAT TCTCTACTAT ACTCTTTTGG ATTTGCAGCT TTAACAGTCT TGCTATCTGT     1380

GTTTACAGCT TATCCTCTTT CTAAGAAAGA CTTGGTTGGA CGTCGTTGGA TTAACTACTT     1440

CTTGATTGTA ACTATGTTCT TTGGTGGTGG TTTAGTCCCA ACTTACTTGC TCGTAAAAGA     1500

ATTGGGAATG CTCAATACTC CATGGGCTAT CATTGTTCCA GGTGCTGTTA ACGTTTGGAA     1560

TATTATTCTT GCTAGGGCCT ATTTCCAAGG ATTGCCTGAA GAATTAGTTG AAGCTGCTGT     1620

CATTGATGGT GCAAATGATT TACAGATTTT CTTCAAAATC ATGCTTCCTC TTGCAAAACC     1680

AATTATGTTT GTTCTCTTCC TTTATGCTTT TGTAGGACAG TGGAACTCAT ACTTTGATGC     1740

AATGATTTAT ATCAAGGATC CAAACTTGGA ACCATTGCAA CTTGTACTTC GTAAAATTCT     1800

CATTCAGAGC CAACCAGGTC AAGACATGAT TGGAGCACAA GCGGCTATGA ATGAAATGAA     1860

ACGTTTAGCT GAATTGATTA AATACGCAAC TATTGTCATT TCCAGCTTGC CATTGATTGT     1920

TATGTATCCA TTCTTCCAAA AATACTTTGA TAAAGGAATT ATGGCTGGTT CACTTAAAGG     1980

ATAAAAAAAG AAAAAATAAA AGGAGTTTTC TCATGAAATT CAAAACATTC TCAAAATCAG     2040

CAGTTTTGTT GACAGCTAGT TTAGCAGTAC TTGCAGCCTG TGGCTCAAAA AATACAGCTT     2100

CAAGTCCAGA TTATAAGTTG GAAGGTGTAA CATTCCCGCT TCAAGAAAAG AAAACATTGA     2160
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1177

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AGTTTATGAC AGCCAGTTCA CCGTTATCTC CTAAAGACCC AAATGAAAAG TTAATTTTGC    2220

AACGTTTGGA GAAGGAAACT GGCGTTCATA TTGACTGGAC CAACTACCAA TCCGACTTTG    2280

CAGAAAAACG TAACTTGGAT ATTTCTAGTG GTGATTTACC AGATGCTATC CACAACGACG    2340

GAGCTTCAGA TGTGGACTTG ATGAACTGGG CTAAAAAAGG TGTTATTATT CCAGTTGAAG    2400

ATTTGATTGA TAAATACATG CCAAATCTTA AGAAAATTTT GGATGAGAAA CCAGAGTACA    2460

AGGCCTTGAT GACAGCACCT GATGGGCACA TTTACTCATT TCCATGGATT GAAGAGCTTG    2520

GAGATGGTAA AGAGTCTATT CACAGTGTCA ACGATATGGC TTGGATTAAC AAAGATTGGC    2580

TTAAGAAACT TGGTCTTGAA ATGCCAAAAA CTACTGATGA TTTGATTAAA GTCCTAGAAG    2640

CTTTCAAAAA CGGGGATCCA AATGGAAATG GAGAGGCTGA TGAAATTCCA TTTTCATTTA    2700

TTAGTGGTAA CGGAAACGAA GATTTTAAAT TCCTATTTGC TGCATTTGGT ATAGGGGATA    2760

ACGATGATCA TTTAGTAGTA GGAAATGATG GCAAAGTTGA CTTCACAGCA GATAACGATA    2820

ACTATAAAGA AGGTGTCAAA TTTATCCGTC AATTGCAAGA AAAAGGCCTG ATTGATAAAG    2880

AAGCTTTCGA ACATGATTGG AATAGTTACA TTGCTAAAGG TCATGATCAG AAATTTGGTG    2940

TTTACTTTAC ATGGGATAAG AATAATGTTA CTGGAAGTAA CGAAAGTTAT GATGTTTTAC    3000

CAGTACTTGC TGGACCAAGT GGTCAAAAAC ACGTAGCTCG TACAAACGGT ATGGGATTTG    3060

CACGTGACAA GATGGTTATT ACCAGTGTAA ACAAAAACCT AGAATTGACA GCTAAATGGA    3120

TTGATGCACA ATACGCTCCA CTCCAATCTG TGCAAAATAA CTGGGGAACT TACGGAGATG    3180

ACAAACAACA AAACATCTTT GAATTGGATC AAGCGTCAAA TAGTCTAAAA CACTTACCAC    3240

TAAACGGAAC TGCACCAGCA GAACTTCGTC AAAAGACTGA AGTAGGAGGA CCACTAGCTA    3300

TCCTAGATTC ATACTATGGT AAAGTAACAA CCATGCCTGA TGATGCCAAA TGGCGTTTGG    3360

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TTATGACACA GGAAGATTTG GACAAGATTG CCCATATCGA AGCAGATATG AATGACTATA    3480

TCTACCGTAA ACGTGCTGAA TGGATTGTAA ATGGCAATAT TGATACTGAG TGGGATGATT    3540

ACAAGAAAGA ACTTGAAAAA TACGGACTTT CTGATTACCT CGCTATTAAA CAAAAATACT    3600

ACGACCAATA CCAAGCAAAC AAAAACTAGA GGTTGATTAT GGGAGATAAG AAATACACAG    3660

TAGAAAAAGC CAATCGTTTT ATAGCAGAAA ATAAACATCT CGTTAATACT CAATATAAGC    3720

CTGAAGAACA TTTTTCAGCT GAGATTGGTT GGATCAATGA TCCAAATGGA TTTGTCTATT    3780

TTCGTGGAGA ATACCATCTC TTTTATCAAT TCTATCCATA TGATAGTGTT TGGGGGCCTA    3840

TGCACTGGGG ACATGCTAAA AGTAAGGACT TGGTGACTTG GGAGCACTTG CCAGTGGCAC    3900
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1178

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TTGCTCCTGA CCAAGATTAT GACCGAAATG GTTGTTTCTC AGGCTCTGCC ATTGTCAAGG    3960

ATGATCGCCT CTGGCTCATG TACACTGGAC ATATCGAAGA AGAAACCGGT GTCCGCCAAG    4020

TGCAAAATAT GGTATTTTCA GATGACGGGA TTCACTTTGA AAAGATTTCC CAAAATCCAG    4080

TTGCAACTGG ATCAGACTTA CCAGATGAGT TGATTGCTGC TGATTTCCGT GATCCAAAAC    4140

TCTTTGAAAA AGATGGACGC TATTACTCCG TAGTAGCTGC CAAACACAAG GATAATGTGG    4200

GCTGTATCGT TCTACTAGGG TCCGATAACC TAGTAGAATG GCAGTTCGAA TCCATCTTTT    4260

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GGAAAGATTG CCTTATTATG TCACCCATGC GTTATCAGCG TGAGGGAGAC TCATATCATA    4380

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CAGAATCAGT TCAAGAAATT GATCATGGCC AAGACTTCTA TGCGCCTCAA ACATTGTTGG    4500

ACGATCAAAA TCGTCGTATC CTGATTGCTT GGATGCAGAC ATGGGGGCGT ACCCTTCCAA    4560

CCCATGACCA AGAACACAAG TGGGCATGTG CCATGACTCT ACCTAGAATT CTAAGATTGG    4620

AAGATGGCAA ACTAAGACAA TTCCCTGTTA AAAAAGGCCA ATATCAAATC CAAATAGATA    4680

AAGATTGTCA TTACCACTTA GGAAATGATA TAGATTATCT TGAATTTGGT TATGACAGTA    4740

ATGCGCAGCA AGTTTACATT GATCGTAGCC ATCTTATTCA AAAAATTCTA GGTGAAGAAG    4800

AACAGGACAC TAGTCGACGG TATGTAGATA TTGAAGCTAA AGAATTGGAA GTTGTTCTAG    4860

ATAAAAATTC CATCGAGATT TTTGTCAATC AAGGTGAAGC AAGCTTGACT GCAACTTATT    4920

ACTTAACGGT GCCAGCTGAG CTATCACGAA TTGATTAAAA ATTAAGTTAT TTCTCCTAAA    4980

GAAAAAGTTC TCTTTCTAAA ATAGTGGAAA GAGGACTTTT TGTGTTTTGG GTATATAAGC    5040

TTAGTTTATG GTATTTGTAA AATTGGTGTT GGATTATGAT TTAAGCTAGT TTTCTAAAGA    5100

ATTTGAAAAA AATTTTATTT AAGCAAAAAA ACCTTGGTTC CAAGGCTTTT CCTGTTGTAT    5160

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TGTTTTGTAA CGTTTAAATG AGTTTTTTGA GTTTGTTGGT GGGGCGTTGC CCGGCAATTG    5280

CCCGACTTAT TGCTTGAAAA AGAATTTAAA ATATAGTATA GTTAATTATA GATTAACACT    5340

TGCTTGGAGG AACTGATGAA GAACAATGAA AGATTAGGTA TTAAATTAAG TAGAGATAGC    5400

GTTTTAGGAT TGAGGGAAGT TAGAAGGCTT TATTTAGGCA GTTCAGATAT CCCAGTTTCT    5460

GATGGCTATG TGATTGAAGT TGCTTATAAC CAGATATCAC ATGAGATTGA TATTATTGAT    5520

TGGGTAGAGT TGAACAAGTC AAAAATTAAG ATAAGTGAAA TTAGTGAAAG CGTGGATATA    5580

GATGCCACTA GCTTGAGAAC AACTTTGACT TTAGACACAT TAGTATATGA AGGTATGAGA    5640

GATATACAGT TAAAGTTGAG AGAGCTTACA AAGGGGAGAG TATTCTTTTC ATTTGTAGTG    5700
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1179

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AAGTTAGTTT TGTTTGCTTC TATTTTAAAG AAAAAAGATT TACTAGAAAA ATTTCAAGAA        5760

AAGTGTTAAT CAAGTATTGA CACTTTATCT GGATTTCGGT ATAATATGCT TAGAAAGGAA        5820

TCTTTCTAAA TTTTTTTCGT CCTTATGTGT TAATCAAAGA CGAATACAAA AACATATTTT        5880

TTTACTCTAA AAAGTGTTAA TCAATGATGT ATTTGTTAGA GAGGTAGATA AATGGAATTG        5940

AGAGCACCAC CAGTTATAAT AGTATAAAAC GTATAATAAA AATATTTTAA CTTGAATTAT        6000

AGAAAAGGAG AAACAAATCA TGAAACAAAA ACAACCGATT GTTTCTAGAA CGAAACAACA        6060

TACATTTGAA GAGCTTATTC AAGACCAAAA GTTAGAAAGA TTGGCTAAGT TGTCGCCCGA        6120

TTTGGTTGGA AGGTATGGTT TTACTGCTAG CTGTGCGTCT TCATTTGCGA ACTTGATTAA        6180

AGAAGCGTAT GGGGGTAAAA ATCTAAACGT AGTTTATGCG AGTCGGATGT TGGCTCTCTG        6240

GAATATTGCT TGCAGTTGTT ATCATAAGGC TGATGGGTAT TCTTTAGCAG ATGCGCTTTT        6300

TAGTGATAAA AAAATTTGTC TAGATTCTTA CTATTACCAC AAGAATACCT CTAATACCAT        6360

AACTAGTGAT GTGATAAAAG ATGTTTACGA TAATTATAAT AATTATATGG TTTTAACTCG        6420

AGAAGCGACA CCTGAATACA TTTATGTTGT ACAAACTGAA ATGCCAAAAG ATTCAGATTT        6480

ATATTTTTAT ATTAGAGAAG TTCTGGGATT ATCGTTTAGT ACCATGCATT ATGCATTTTT        6540

AGTCAAGGTT CTTGCAGGAG CGCTTGCTAG AAAATATAAG CCATATCGAA ATTGAATTAT        6600

TTAAATTTAT ACTCTTCGAA AATCAAATTC AAACCAAGTC AGCTTCGCCT TGCTGTACTC        6660

AAGTGCTGTC TGTGGCTAGC TTCTTAGTTT GCTTTTTGAT TTTCATTGAG TATTACTCTT        6720

ATGGTAGTTA TTTATGGCAT AATAATATTG ATTTGGGAGT TATAGCGAAA ATTTTAGGTT        6780

CTATAATATT TGTAGTGGGT AAACCACTAT AGATATTATG GAGCCTATTT ATTGTAGAAA        6840

AAAGTCCCAT ATGA                                                          6854
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(2) INFORMATION FOR SEQ ID NO: 201:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 3895 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear


    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 201:

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TCCTTGCTAA GTTTATACTC AATGAAAATC AAAGAACAAA CTAGGAAGCT AGCCACAGGT         60

TGCTCAAAGC ACCGCTTTGA GGTTGCAGAT AAAACTGACA CGGTTTGAAG AGATTTTCGA        120

AGAGTATTAA TTTACATAAA TAGCCAGTGT TTGATAGGGT TTGAGTAGAA TTTTCTCAGA        180
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                              1180
CACTTCTGCA TCTTCATAGT TTGATATCAA AATCTGTCCA TTTTGGTAGA CTGCTGGCAA      240

GTCGATTTcA CTTCTTTAGC ATAAAAGTTA TTGAGCACTA GTAACTTTTG ATCCTCAAAC      300

TGGCGTTCAA AAGCGTAGAC TTGTTTGCTA TCTTCAAAGG CTGGTTTGTA ACTTCCTTCT      360

GAAATGATTG GCATTTCCTT ACGCATCGAA TCAAGTCTTG ATAGAAGGTA AAAATCGGAC      420

CCTGGATTTC ATTTTCTACA TTGATGTATT TATAGGATTT ACCAGCTTTC AACCAAGGAG      480

TGCCTGTTGA AAATCCTGCA TTTTCCGAAG CATCCCACTG CATGGGAATG CGTGAATTAT      540

CACGCGACTT AGCTTGAATA ATCTGGAAGG CTTCTTGCTG ACTCTTTCCT TCTTCTAAGA      600

GCATCTGATA GGCATTAAGC GATTCGACAT CCACATAATC AGCCATAGAA TCATAGTCTG      660

GGTCAATCAT CCCGATTTCC TCACCCATGT AGATATAAGG TGTCCCACGT GACAGGTGAA      720

TGCTGGCTGC TAGCATGGTG GCTCCTTCCT TGCGGAAGTT TTGAATATCG ACAAAACGGT      780

TCAAGGCACG TGGTTGATCG TGATTATTCC AAAAGAGGGC ACTCCAACCG TCTTTATCAC      840

TCATTTCCTT ACCCCAACTA TGGTAAAGAC TCTTCAACTC TTCAAAATCA AAGGGAGCCA      900

AGGTCCACTT TTGTCCATCC TTATAGTCCA CCTTGAGGTG ATGAAAATTA AAGGTCATGG      960

ATAATTCCTG ACGATCAGGC GACGAATAGA GGACACAGTT TTCCATGGTG GTAGAAGACA     1020

TTTCCCCAAC TGTCATAAAG CTATCGTCGG ATCCAAAAGT GGCTTGGTTC ATCATACGCA     1080

AATAGTTATG AACGATGGGT TTGTCTGTAT AAGCTGGCTT CCCTTCATTT TCAGGACAGT     1140 .

CCACTGAAAC CTCGTCCTTA CCGATCAAAT TGATCACATC AAATCGGAAA CCTTTGACAC     1200

CCTTGTCGCG CCAGAAATTA ACAACCTTGA AAAGCTCCTT ACGGACATTG GAATTGCGCC     1260

AGTTAAGGTC AGCCTGGGTC TCATCAAATA GGTGAAGATA GTATTTCCCA GTATCCCCGA     1320

AAGGCGTCCA TGCAGAACCA CCAAACTTAG ACTGCCAATC TGTTGGTTGG TCTTGGATGA     1380

AGAAAAAGTC TTGATAATAC TTATCACCAG CTAGGGCTTT CTGAAACCAT TCATGCTCTG     1440

TCGAACAATG ATTAAGTACC ATGTCCAGCA TAAAGTCAAT CTTGTGCTCT TTACCGACAC     1500

ACACCATTTT CTCAAAATCA GCCATATCAC CAAAAAGAGG ATCCACTGCC ATATAATCTG     1560

AAATATCGTA ACCATTATCC CGTTGAGGGC TTGGATAGAA TGGATTGAGC CAGACCATAT     1620

CCACACCTAG TTTGGCTAAA TAGGGAATTT TTTCGATAAT CCCACGGAAA TCCCCAATAC     1680

CGTTTTCAGT GGTGTCTTTG TAAGATTTTG GATAGATTTG ATAGACTACT TTTCCTTTAT     1740

CAAGTGTCAT CTGTTTCTCC TTTTCTGATA AAAGGGAGGA AGCAGTCTTC CGTCCCTATT     1800

TGTGCTATTT CAATTATACT CAATGAAAAT CAAAGAACAA ACTAGGAAGC TAGCCACAGG     1860

TTGCTCAAAA CACTATTTTG AGGTTGCAGA TAGAGCTGAC GTGGTTTGAA GAGATTTTCG     1920

AAGAGTATTA GATTCGTGTA GCGACCATGA GAGATGCTCC AGCTTGGATC GTTGTCGGAT     1980
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1181

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AAGTTCCGGG AATAGTCGCT GTATAAGCAT CTTGGTTGGT GATGATAACA GGAGTTTCTG      2040

TCACCAGACC TGCAGCCTTA ATGACATCCA TATCAAAACG AATCAGTTGC TGACCAACTG      2100

TAACGTGATC TCCTTGGACT ACAAGACTTT CAAAACCTTT GCCATCAAGA CCTACTGTAT      2160

CCATACCGAT GTGGATGAGC AATTCAACTC CCTCGTCAGA GACAATGCCG ATGGCATGCT      2220

TGGTAGGGAA AAGAACCGTC ACTGTCCCAT TAACTGGAGA GGTCAACTCA CCTTGGCTTG      2280

GTTCAATGAC TAGACCTTGC CCCATGACAC CTGATGCAAA AATAGGATCC GTCGCTTGAC      2340

TCAATTCTTT CACTTGGCCA GTTAGTGGGC TGATAATTTC TACCGAAGTA AGTTCTACTG      2400

GTTCATGGTT CACAAATTCT GCTTCTTCTT GAGCAACGAA TTCTGCCTGC AAGTTCGTAT      2460

CGCCCTCTGT TTTTGTAAAG AGACCAGCCT TGCGGAAGAA GAAAGTCAAG AGCATTGGAA      2520

CAACAATCGC AACTAGCATA GTTCCTGCAA ATGGCAGCAT GTATTGAGGT TGAATAGAGA      2580

GAATACCTGG CAAACCACCG ATACCAATAG AAGCCGCAGT TACATTAAAA GTAACGGATA      2640 ·

ACATGCCTGC AAGGGCTGAA CCAGTCATCC CAGCAACAAA TGGATAAATA TATTTTACGT      2700

TAACCCCAAA AAGAGCTGGT TCTGTAACAC CGAGATAGGC TGAAATGGTT GCAGGAAGTG      2760

AAACCTGAGC CTCACGCTCA TCATGGCGAT GCATGAAATA ATAGGCAAAC ACGGCTGAGC      2820

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TCAATTGTGT ATCAATGGCA TTGGTCATAT GGTGCAGACC TGTGATGACA AATGGAGCGT      2940

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CAACTGATGA AAGTCCTTGT CCAATTGTCC AACCGATTGG TCCCAAAACA GTATGAGCCA      3060

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TATGCTTGTG CCAGAAGATT TCAAGATAAG ACAGACTCAA ACCTGCAAGC AAGGCTGGGA      3180

TAACTTGGGC TTGGTAACCG ATACGATTAA CAGTAAAATA GCCAAAATTC CAAACCCAGT      3240

TTGCCGCGAT ATCAGCTGCT GGCGTTGAAG CAACCGCATA GGCATTGAGC AACTGAGGCG      3300

ATACCAAACA GATTCCGAGA ACAATTCCCA AAATTTGGCT GGTTCCCATC TTACGAGAAA      3360

CAGACCAAGT AATCCCTACT GGTAAGAACT GGAAGATAGC TTCACCAGGC AACCAGAGGA      3420

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CTGGAATAAT CGGAGTAAAA ATCTCCGCCA GAGTGGTCAT AACACCTTGG ACCACGTTTT      3600

GATTACTCTT AGCTGCAGAC TTGGCTGCTT CTTTGGAAAC ACCCTCAATA CCTGAAACGG      3660

CTGTAAAATC ATTATAAAAG ATGGGCACGT CATTTCCAAT GATTACCTGA AATTGACCTG      3720
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                                        1182
CATTTGTAAA GGTTCCTTTA ACAGCTGGAA TTGACTCGAT AGCTTTAACA TTAGCCTTCT      3780

TATCATCTCC TAAAACAAAC CGCATCCGTG TCGCACAGTG AGTTACGGCA GTCACATTTT      3840

CTTTGCCTCC GATTGCCTGA AGCAGATCTT TGGCTTCTTG TTCAAATTTT CCCGG          3895
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(2) INFORMATION FOR SEQ ID NO: 202:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 3936 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear


    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 202:

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AGGATCGCCG CTCCAGCTAC TAAGTCTCGT GCAGTGCCGA TTTATCAAAC AACATTTTTT       60

GTTTTTGATG ACACGTAGGA AGGTGCCGAT CTGTTTGCCT TGAGGAAACC AGGGAACATT      120

TATACTCGTA TCACCAATCC TACAACAGCT GCCCTTGAAG GTGGTGTTGA AGCGCTAgcA      180

ACAGCATCAG GTATGACTGC AGTGACTTAT ACGATTTTGG CGATTGCCCA TGCTGGTGAC      240

CATGTAGTGG CTGCTTCGAC TATTTACGGT GGAACCTTCA ATCTTTTGAA AGAACCCCTT      300

CCTCGTTATG GTATCACAAC AACCTTTTTC GATATTGATA ATTTGGAGGA AGTAGAAGCA      360

GCTATCAAAG ACAATACCAA GCTTGTCTTG ATTGAAACCT TGGGTAACCC CTTGATTAAT      420

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GACAATACTT TTGCAACACC TTATTTGATT AACGTCTTCT CTCATGGCGT TGACATTGCC      540

ATTCACTCTG TGACTAAGTT TATCGGTGGG CATGGTACAA CTATTGGAGG AATAATTGTC      600

GATAGTGGTC GTTTTGACTG GACGGCTTCA GGGAAATTCC CTCAATTTGT TGACGAGGGT      660

CCAAGCTGCC ACAATTTGAG CTATACTCGT GATGTGGGTG CAGCAGCCTT TATTATAGCT      720

GTTCGAGTTC AATTGCTTCG TGATACAGGT GCAGCCTTGT CACCATTCAA TGCTTTCCTC      780

TTGCTACAAA GACTTGAAAC CTCTTCACTT CGTGTGGAAC GCCATGTACA AAATGCTGAG      840

ACAATTGTTG ATTTTCTTGT CAACCATCCT AAGGTAGAAA AGGTAAATTA TCCAAAACTT      900

GCAGATAGTC CTTATCATGC CTTGGCTGAG AAATACTTGC CAAAAGGTGT CGGTTCAATC      960

TTTACCTTCC ACGTCAAAGG TGGCGAGGAA GAAGCACGCA AGGTCATTGA TAATTTAGAA     1020

ATCTTTTCTG ACCTTGCAAA CGCGGCAGAT GCTAAATCGC TTGTTGTCCA TCCAGCAACA     1080

ACCACTCACG GTCAATTGTC AGAAAAAGAC CTAGAAGCAG CAGGTGTCAC ACCAAACTAA     1140

ATTCGTTTGT CAATCGGTCT TGAAAATGTA GAAGATTTGA TTGAAGACTT GCGCTTGGCC     1200

TTGGAAAAAA TTTAAAGTAA AAGAAGATAA ACAGTGGGCT TCGACTCACT GTTTTTGATT     1260
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1183

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TTCCCTCAGG CATGATATAA TGGTTACAGA AGTCTAGAAA GAGGAACGAT ATGAACGAAA      1320

TCAAATGTCC CAACTGTGGG GAAGTCTTTA CAGTAAATGA GAGTCAGTAT GCCGAACTCT      1380

TGTCCCAAGT GAGAACGGCA GAGTTTGATA AGGAACTACA CGATAGGATG AAGCAGGAAC      1440

TGGCCTTGGC TGAGCAAAAG GCCATGAATG AGCAACAGAC TAAACTGGCT CAGAAGGATC      1500

AAGAAATTGC GCAATTACAG AGTCAGATCC AAAACTTTGA TACAGAAAAA GAATTGGCCA      1560

AGAAAGAGGT TGAACAGACA AGCCATGAGG CTCTCTTGGC TAAGGACAAG GAAGTACAGC      1620

TCTTAGAAAA TCAGTTGGCT ACCTTGCGTT TGGAGCATGA AAATCAACTA CAAAAGACCC      1680

TTTCTGACCT AGAAAAGAA CGGGATCAGG TTAAAAACCA ACTACTTTTG CAGGAAAAGG      1740

AAAATGAATT ATCTTTGGCT TCTGTTAAGC AAAACTACGA AGCCCAGCTC AAGGCAGCTA      1800

GTGAACAAGT CGAGTTTTAT AAGAATTTTA AGGCTCAACA ATCTACAAAA GCGATTGGGG      1860

AAAGCCTAGA ACAGTATGCA GAGAGTGAGT TTAACAAGGT TCGTAGTTTC GCCTTTCCAA      1920

ATGCTTACTT TGAGAAGGAT AACAAGGTCT CTTCGCGTGG GTCTAAAGGG GACTTTATCT      1980

TCCGTGAGTG TGATGAAAAT GGAGTTGAAA TCATTTCTAT CATGTTTGAG ATGAAAAACG      2040

AAGCGGACGG AACAGAGAAG AAGCACAAGA ATGCAGATTT TTACAAGGAA TTGGACAAGG      2100

ACCGTCGGGA GAAGAACTGT GAGTATGCCG TTTTGGTGAC CATGCTTGAG GCTGATAATG      2160

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GTCCTCAATT CTTTATCCAA TTGATTGGTC TCTTACGTAA TGCGGCGCTA AATTCCCTAA      2280

AATACAAGCA GGAGTTGGCC TTGGTTCGCG AGCAAAATAT TGACATTACG CATTTTGAGG      2340

AAGATTTGGA TGCCTTTAAG CTAGCTTTTG CTAAGAACTA TAATTCAGCT TCGACTAACT      2400

TTGGAAAAGC TATTGATGAA ATCGACAAGG CCATCAAACG CATGGAAGAG GTTAAGAAAT      2460

TCCTGACCAC ATCTGAAAAC CAACTCCGTT TAGCTAACAA CAAAATTGGAA GATGTCTCTG      2520

TTAAAAAATT GACCCGGAAA AATCCAACAA TGAAAGCGAA GTTCGAAGCA CTGAAGGGGG      2580

AGTAGAAAGC AAAAATGAAC GGTATTATTA ACTTAAAAAA GGAAGCAGGA ATGACCTCGC      2640

ATGATGCGGT TTTTTAAACTG CGTAAGATTT TGGGAACCAA GAAAATTGGT CATGGTGGAA      2700

CCTTGGATCC GGATGTGGTG GGTGTTTTGC CGATTGCGGT TGGCAAGGCG ACACGCATGG      2760

TCGAGTTTAT GCAGGACGAG GGTAAGATCT ATGAGGGGGA AATCACTCTG GGCTATTCCA      2820

CGAAGACTGA GGATGCTAGT GGGGAAGTGG TCGCAGAAAC CCCTGTTTTG TCTCTCTTGG      2880

ATGAAAAGCT TGTTGATGAA GCGATTGCTA GCTTGACTGG GCCTATTACT CAGATTCCCC      2940

CTATGTATTC GGCAGTTAAG GTTAATGGTC GCAAGCTCTA TGAGTATGCG CGTGCTGGTC      3000
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1184

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AGGAAGTGGA GCGTCCAGAA CGTCAGGTGA CCATTTATCA ATTTGAGCGA ACAAGTCCGA      3060

TTTCTTATGA TGGCCAACTT GCCCGATTCA CTTTTCGTGT AAAATGCAGT AAAGGGACGT      3120

ACATCCGTAC TTTGTCAGTT GATTTGGGTG AAAAGCTTGG TTATGCGGCT CATATGTCCC      3180

ATTTGACTCG TACTAGTGCT GCTGGCTTAC AATTAGAAGA CGCTCTTGCC TTGGAGGAAA      3240

TTGCTGAAAA AGTAGAGGCT GGGCAATTAG ATTTTCTCCA TCCTTTAGAG ATTGGGACAG      3300

GTGACCTTGT CAAAGTTTTC CTAAGTCCAG AAGAGGCTAC AGAAGTTCGC TTTGGTCGTT      3360

TTATTGAGCT AGACCAAACG GACAAAGAAC TGGCTGCCTT TGAAGATGAT AAAATTGTTAG     3420

CCATTCTAGA AAAACGGGGC AATCTCTATA AGCCAAGGAA GGTTTTTAGC TAGATCGTTT      3480

AGGAATAAAA ATCGGGTGAT AGATAACAAT TGCTTGATAA AACCCCATAC TAATAGTAGA      3540

ATGGTTTTGG GAATTATAAT ATTCCAATTG TTGCGAGTTG TAGGTACTCA AATAATCTAT      3600

ATAGAAATTT AGAGGTGTGA AATGAAGCAA TTTAAAATTC TTTCAGATAA ATATTTAGAG      3660

TCCATTACAG GTTCTGATGG GAACTTAGGC CCAGGATTTG GTGTGATAAT TCCATGATGC      3720

GAAATGAGTT TCGAGAAAGG GTGGAGCAAC TTCTTCAACA AAAAGAAATA AATGAAAATA      3780

GTGAGTTGAG TCACCTGTTT CGTCTTGCTA TACAAAATTT AGACAGAAAT GAAAAATACC      3840

AATCGGTCAT GGCCAATTTG AGTCAAGGGT TGTCACTTTA CCTCATGACG CATCATTACC      3900

AGGCACCTAA GTCTGTCATT GATTTTGGTT TATGGA                                3936
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(2) INFORMATION FOR SEQ ID NO: 203:

　　(i) SEQUENCE CHARACTERISTICS:
　　　　(A) LENGTH: 3230 base pairs
　　　　(B) TYPE: nucleic acid
　　　　(C) STRANDEDNESS: double
　　　　(D) TOPOLOGY: linear

　　(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 203:

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CATCCAGCAA CTGCTCCTCT GAGCGTTTCA AAATTGATGT AATTTTTCTA GTTTTTTCTA        60

ATAAATGTGC CATTTTTCAC CTCGAATTTA ATCGCTATCA TTATAACATA AAAACGTCTC       120

TTTTTCAATA ATTATCTGAA AATTCCTTAT TGACTTGCAT TGACTTACAA TTTAATTAAA       180

AACCAGAATA TTTTTAATTA AATTGTTCCT TTTCTATTGA CAAGTTGCCT ATTTTTGTGT       240

ATCATAATAT TATAAAAGAT AATATAATAA TTTTATTTGT CTTTTCACAT TCGGTCTCCT       300

TATATAAAAA AGCGATTCAT TTTGAACCGC TTTTTCTTAT TTATCGCCTT TGTTACGAAT       360

AACAAAGCCT GTTTGCTTTT CGCTTAAAGT ATTGCGTGGT TTTTTATTAT CCTTACGGTA       420

ACGTTTTTCC TTATCAAAAC GATCGTTGCC ACGACTTCCT TTTTTGAACT CATCACGGCG       480
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1185

| | | | | | |
|---|---|---|---|---|---|
| ACCATTGCCA | CGGCGATCAC | GCTCTCGACG | GTCGTCCCCA | CGACGGCCTC | CACGACCTCC | 540 |
| CTTAGCTTTA | CCACCGAAAC | CATTACCTGA | TGGTTTAAAC | GGTAGTGGtT | TTTCACGTGC | 600 |
| AATCTCCACT | TCTGGAAGGC | TATCTGGGTC | TTGGACTGTC | AGACTCAAGA | TATACATTGC | 660 |
| CAATTCTTCT | GGAGTAAACT | CAGCAGCCAA | TTTGCGAGCA | TCCTTACCAA | ATTTCTCAAA | 720 |
| GTTGGCACGA | ATGGTTTCAT | CTGCAAAATC | ACGTTCGATT | TTCTTGAGAG | CTACCTGTTT | 780 |
| TTTTGATTGG | AAGGATTCTT | CTACACTTGC | AGGTTTGAGA | CCTTTCATGC | GTTTCTTAGT | 840 |
| CAAGTTTTCA | ATGATTTGAA | GGTAACCCAT | TTCGTTTGGA | GCAACAAAAG | TAATAGATTG | 900 |
| ACCTGACTTA | CCAGCACGAC | CTGTACGACC | GATACGGTGA | ACATAACTCT | CAGGATCTTG | 960 |
| TGGAATATCG | TAGTTGTAGA | CATGGGTCAC | ACCTGAAATA | TCCAAACCAC | GCGCTGCAAC | 1020 |
| GTCTGTCGCA | ACCAAAACAT | CAAGATTGCC | ATTTTTAAAG | TCACGAAGGA | CACGAAGACG | 1080 |
| TTTGTTTTGG | TCTAGGTCGC | CATGAATTCC | TTCTGCACGG | AAGCCACGAA | TTTTCAAACC | 1140 |
| ACGAGTCAAT | TCATCCACAC | GGCGTTTGGT | ACGACCAAAT | ACAATAGCGA | GTTCTGGTTG | 1200 |
| TGCCACATCC | ATGAGACGAG | TCATGGTGTC | AAATTTTTCT | TGTTCCTTAA | CACGGATATA | 1260 |
| GTACTGGTCA | ACCAATTCTG | TTGTCAATTC | CTTAGCCGCA | ATCTTGACAT | GTTCAGGGGC | 1320 |
| TTTCATAAAC | TGAACACCGA | TACGTTTGAT | GGCATCTGGC | ATAGTTGCTG | AGAAAAGCAA | 1380 |
| AGTTTGACGG | TTCTCAGGTA | CACGGGAAAT | AATGGCTTCG | ATGTCTTCAA | GGAAGCCCAT | 1440 |
| GTTAAGCATT | TCATCCGCTT | CGTCAAGGAT | AAGGGTTTCA | ATGTCTTGTA | ATTTCAAGGC | 1500 |
| CTTGCGTTTA | ATCAAGTCCA | AGAGGCGACC | TGGAGTTCCC | ACCACAATAT | GGGCACCAGA | 1560 |
| TTTAAGAGCC | TTAATTTGTT | TTTCAATGCT | TGATCCGCCA | TATACTGAAC | GGACTTTGAC | 1620 |
| TCCCTTACTA | CGACCAAAGC | GGAAGAGTTC | TTCTTGACTT | TGGACAGCTA | GTTCACGAGT | 1680 |
| TGGAGCGATG | ACCAAGGCTT | GGATAGTCGC | TTCTTCTGTA | CGGATTTTTT | CAAGGGTAGG | 1740 |
| CAAGCCAAAG | GCTGCAGTTT | TTCCTGTACC | AGTCTGAGCT | TGACCGATAA | CATCCTTGCC | 1800 |
| TTCAAGGGCC | AAAGGAATAG | TTTGTTCTTG | GATAGGACTA | GCTTCTACAA | AACCAGCTTT | 1860 |
| TTCAATTTCT | GCTAGCAAAT | CAGCAGACAA | GTTTAATTCA | TTAAATTTCA | CGTTATTCTT | 1920 |
| CTTTCTAAAG | GTGGTGCGAA | GCCACCCTAT | AGGGCTTAGT | TTATACTTTT | CTTTTTATGA | 1980 |
| CGTATTTTCA | TATAACTAGA | TATAAAATCG | TGTTGCTTCT | TTTCCACAAA | AGAAAAGTAC | 2040 |
| TGTTTTCTTT | GCAACCTATC | TAGTATAACA | CAAGACCAGA | GCAAAAGATA | GCCCCATTTC | 2100 |
| TACAGAAAAT | CATGTAAGCG | CTTTTTGACT | TTCTTTTTTG | ATTGAACGAC | CTAGATAATA | 2160 |
| AGACAAAGCC | AAGGCGATAC | TGTATAAAAT | GAGAAAAACG | AACAAGGTTT | GTGTGTACGA | 2220 |

1186

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ATGAGCCATT TTATAAGTCT CTGCTAATAA AATAGGTCCC GCTAAACCAG CCATTGCCCA    2280

AGCTGTTAAA ATATAACCAT GCAGAGCGGC CAATTCCTTG GTTCCAAAAA TATCACTGAG    2340

ATAAGCTGGA ATCAAAGAAA AACCAGCTCC ATAGCAAGTC ATCAAAATAG ACATAGCAAC    2400

TACAAATAAA ACGGAATCTG TAAAGAGCCA AAGTGAGAGA GAAAAGAAAA GATTGACAAG    2460

CAGTAATATA CTAAAGGTTA GAGGGCGACC GATATAGTCA GACAAACTCG CCCAGAGCAA    2520

GCGACCAAAT CCATTGAAAA TCCCCAAAAC ACCCACCATT ACTGCTGCAT GACTTGTAGA    2580

CAAGCCAGCC ATCTCCTGTG CCATTGGCGA TGCCGCTGAA ATTAAGCCTA AACCACAAGC    2640

TATGTTGATA AAGAAAATAA TCCAAAGCAT ATAAAACCGA TTGCTTTTTA GAGCCTGATT    2700

TGCAGCCATT CCTTGCGTCA AAGAGGCTGT TTTTTCTTTC CCTGAAGAAG ATAAAATTGC    2760

AAGCTCTTGC TCATTTGGAC GCTTAATGAA TTGTGAAGCT AGGAGCATGA TAATAAAGTA    2820

ACTTGCTCCT AAAATATAAA AAGTTTCTAC AAGCCCTACC CCTGCGATGA GGTGTTGCGC    2880

TATGGGACTA GTCAATAAAG AAGCAAAACC AAACCCCATA ATCGCTAAAC CTGTTGCGAG    2940

ACCACGTTTA TCAGGAAACC ATTTTATAAT CGTCGACACA GGGGTAATAT AGCCTGCTCC    3000

CAAACCAAGC CCACCTAAAA TGCCATAAGC GAGATACAAC AACCACAGCT CTGACGGTCT    3060

ATTGCAAATC CTGTTAAGAT ATTTCCACCT GCGTATAGAA AAGCAGATAG ACTTCCCATG    3120

ACTTTCGGAC CAAATTTTTC TACCAAACGC CCCATAAATG CAGCCGATAA GCCCAAACAA    3180

AAGATTGCTA GACTAAAGGC GAAGGCAACA GAAGCCTGAT CCCATCCCGT               3230
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(2) INFORMATION FOR SEQ ID NO: 204:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 5096 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear

    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 204:

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CCTATGAAGA CTGTCCCAAC TGGGTGTCCT TCTAGGCTAT CTGGTCCTGC CACTCCAGTC    60

AAACTAATTC CAAAATCAGA CTGGGTCTTG CTTCGTGCCT GCTCAGCCAT CTTCTGAGCT    120

GTAAATTCAG ACACCACACC ATGTTCTTCC AAATTCTTGG CAGGAATATC CAACATCCTT    180

GATTTTTCCT CCAAGCTATA GGTCACAAAA CCACCCTTAA ATATACTTGA AACTCCAGAA    240

AAATTCGCCA CGGTAGCTTG GAAAAGACCT GCCGTCAAAC TCTCTGCAGC CGCGATGGTT    300

TTCCCTTGCC TTTTCAGTTC TTCTACCACA ATGCTGGCTA AACTAGTTTC TTCCCCATAA    360

CCATAGCAAA AGTCTCGTAA AGAAATTCCT TCGAAAGTCT GGCAGTCCAA GATTTGATTT    420
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1187

| | | | | | |
|---|---|---|---|---|---|
| TCCAAGATAT | CCAGCGCTTG | ATTCGCCTCT | TCTTGACTGC | TAGCCTTTGT | TGACAGACGT | 480 |
| AGAGTGACTT | CTCCTGTCTT | GGCATAAGGG | GCCAAGGTAG | GATCGATCTG | ATTATCAATT | 540 |
| AAATCAGCCA | AAATCGTAAC | CAACTGGCTC | TCGCCAATCC | CAAAGAAACG | AAGAACTCGG | 600 |
| GAATACAGCT | TGCTCCCTGT | CATCAACTTG | GGTAGAAGTT | GGTTTAAGAC | CATGGGTTTC | 660 |
| AATTCACTTG | GCGGACCTGG | AAGGACGACA | TAGGTCACTC | CGTCTACTTC | TAATTTTCCT | 720 |
| CCAACAGCCA | GTCCTGTTTC | GTTTGGCAGT | GGAATCGCTC | CTTCTACAAT | TTGAGCTTGT | 780 |
| CTTTCGTTAT | TCGGTGTTCG | GGCATAGTCT | GGTCGCAGGG | TAAAAAAGAT | ATCCAACTTC | 840 |
| TCCTGAGCCT | GAGGATCAAA | GACTAATGCT | TTCCCTAAAA | ATTTAGCTAG | GGTTTGTTTG | 900 |
| GTTAGGTCGT | CCTCAGTTGG | CCCCAAACCG | CCTGTCAAAA | TCACCAGACT | GCTACGTTGA | 960 |
| CTGGCAATCT | CAAGCAAAGA | CAAGAGACGA | ACTTCATTGT | CTCCTACAGC | CGTCTGAAAA | 1020 |
| TATACATCTA | CCCCAATCTC | AGCTAGTTTT | TCCGACAAAA | ACTGGGCATT | GGTGTTGACA | 1080 |
| ATCTGCCCTG | TCAAAATCTC | TGTTCCAACA | GCAATGATTT | CTGCTTTCAT | GTTTCCTCCT | 1140 |
| ACCTATCTAT | TCGTATTTTT | TTGAAAAAAT | CGCAGGAATT | TTCCTACGAT | TGATTTTTTT | 1200 |
| ATTTGTATCA | AAAGTTAATT | ATCTTCATCA | CCAACAGGTG | CTCTGCCAAA | TAAATCTTCA | 1260 |
| AATAAAACCG | CATTGGTTTC | AAGCTGAGTA | ACTTCTTCTT | GTCCCAAAGA | ACGTCGGAGT | 1320 |
| AGATTTTGCA | TTTCCAACAT | ATGTGCTCTC | GAAACAATCT | GGTAAGAAAC | ACCTTGAAGT | 1380 |
| ATCTCTCCTT | CACCCTGCAA | CTGCTGAGTT | TCAATGGTTT | TAAATGAATC | TTTATAGCCT | 1440 |
| AGCAAGTTAG | GGATACTTTT | TGCAGACAAA | TCAATATTGG | TCTGCATATT | GTCACTCAAA | 1500 |
| GCTTTTAGAA | TCTCTTGATA | ATGACCAATG | CTATTTAAAC | TGAGAGCTTT | TTCCATGACT | 1560 |
| TTTTGAATAA | CTTCACGTTG | ACGTTTTTGA | CGACCATAAT | CCCCCTCAGG | ATCTTGGTAA | 1620 |
| CGCATTCGTG | CATAGACTAG | GGCTTCTTCT | CCCCCAATAT | GTTGCTCCCC | AACACCGATA | 1680 |
| GAAATAGTAT | TAAATTCTTC | TTGGTCACTG | ATAGAAATTG | GGAAACCTAG | GATATTATTG | 1740 |
| ACTGTAATAC | CTCCTACTGC | ATCCACTAGT | TTTTGCAATC | CTCTCATATT | GACCATCACA | 1800 |
| TAGCGATCAA | TATGGATATT | CATCATTTTT | TGAATGGTTT | CTATAGCAAG | CTCTGCTCCA | 1860 |
| CCATCTGCAT | ATGCTGAGTT | CAGTTTCGCT | TCATGAGCCT | GACCATTCCC | TGATTCAATG | 1920 |
| CGCGTCAGAA | TATCCCGCTC | TAAACTCATC | ATTGTTGTTT | TTTTCGTTTT | AGGATTCACT | 1980 |
| GTCATCAAGA | TCATGCTATC | ACTTCTACCG | ACCCAAGTTT | CAGTTCGTTC | AACATTTCCG | 2040 |
| GTGTCCACTC | CCATTAACAG | AATGGTTAGA | GGTTCAGTCG | CTTCAATAAC | CTTGGTTTCT | 2100 |
| TCACCGATTT | TTTTATAGGT | TTTAGCTAAG | GTTTCTGTCC | CTTGTTGATA | AATAGTATAA | 2160 |

1188

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GCAAAAACAC CTACTCCTAC TACAGTTACA GAAAGTAAAG CTAGCACCAT TCCAATAATT   2220

TTTTTAACCA TATTTCTACT AACCTATCAG TTTACCCATC AAGTAAACAT CGATAAATTT   2280

CCCTTCTTCT ATATATGCCC CACGCTCTTG GCTACCTTCA ATGACAAAGC CATGCTTTTG   2340

ATAAAGATGG ACTGCTGCTT GATTACGAGT TTGGACAGTC AGTTGGAGAC GACGCAGAAT   2400

GCCACTTGCT TGTGCCCACT CTATCGCTTC TTCTAGCAAC AAACTTCCCA AGCCATTATT   2460

CCAATATCTT TTTCCAATCA CAATGAAGAG ATCTCCAATA TGACGGACTC TCTTACGCTG   2520

ATCAGCTGTA ATATTTACAA TACCAGCAAT TTTGCCATTT AAGAATGCAA GTAAGGTTAT   2580

CTGATTGTCC GAACTAGCTT GCTTGTTGAG GAATATTTCC ATCTCCTCAC TAGTCAAGAG   2640

AATACCATCT CCGTCTAGGC TGGTAAAGTC TGTCTCCAAA CTCACACGAT TTAAAAAGGC   2700

CACTAATTCA GCTGCATCTT TGGGCTCTGC TTCCCTAATG AGCAATTCAT ACTCCATATT   2760

GAAGCTCCTC TAACAATTTC TCAGCACGCA AACCCTTTGC CTGAAAATTT AAACGGCGTC   2820

CATCTGCTTC TTTTAGAATT TCCAATTCTA AATAAGCATC TGGCAAGGCA TCTCCTAAGA   2880

GATTTCCCCA CTCAATAACA GTCACGCCGC CACCAAAGAT AAACTCATCC AAGTCGATAG   2940

AATCAGCATC TCCTTCAATA CGATAAACAT CTAGGTGATA AAGTGGAAGT CGACCTTCAT   3000

ACTCTCTCAC GATAGTATAG GTGGGACTTT TAATCATTTG AGAAATCTGT AATCCTTTTG   3060

CAAGTCCTTT AGTAAAGGTC GTTTTACCTG CACCCAGTTC TCCAGTTAAG ATTAAAACAT   3120

CATTCTTTGC TAATAGATGG CCCAAACGCT CCCCTAAGGC TTGCAACTCT TCTTCATTTT   3180

TTGTGTACAT ACTCTTATTA TACCAAAAAC TTTTCTTTTG TGTCTATTTT CCTACTAAAC   3240

TTATCATCAT AACATCCATA AAAAACAGGC TTTCTCTAAA AGAAAATGAG CGTAACAATG   3300

ACCAATACAA GATCTCGGAA AATATGACCA TAAAAGGAAA CTTCCTTCTT AACCGAATTT   3360

GGGACAAGAT AGGCTGCAAA AAACAAGCCC AGTCCAATAT AAATCAGAAG TGAGACAATG   3420

GTCATTGGAT TTCTTAAGAA AAGAAGTGTT GCTAAAATAG TCACCAACAC TGTCTTTTTT   3480

CTGTCCAGCA TAGCAAGAAA ATCGCGCACG TATTTTTTCA AGGGTAAAAA AATCAGCAAA   3540

TCTAGCCCAA ATAGGAAAAA GAAGGATGGC AATAAAAAGT CAACTAATTC TTGCTGCAGC   3600

GTATTTTTGA TGAACAAGTT ATCTGACAAA ACAAGAACAG CTCCTAACAA ATTAATTAAG   3660

AGTAACATAC TGTAAAAAAG CTTCACCGAC TTCTTACTGG CTAGGACACT ATGGACTTCT   3720

TGCTTACGGG TATAAAGATA ATTTACTCCA GCACAGATTC CTGAAACGAA AACCATGCTT   3780

CCGATGAAAA AAGCTGTACT TTGTTTAAAG GACAAGATGC ATTCCTTCCA TAGGAAACAG   3840

CTACTCAAAC TGATTTGAAT TAAAGCTAAC AAAAATAAGA TTCTCATTGA TTTCATCTTC   3900

TCTCTCCCTT CCTACCAATC ATTATACTAG GAGAAAAGAG AGAACTGTTT CTAATCTTCT   3960
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1189

CAAATGTCTC TTTAAGACGC TAAACAAACA CTAGAGACTA ATACTCAATG AAAATCAAAG        4020

ATCAAACTAG GTAGCTAGCC ACAGGTTGCT CAAAACAGTG TTTTGAGATT GCAGATAGAG        4080

CTGACGTGAT TTGAAGAGAT TTTCGAAGAA TATAAATTTG AAATCATGAA AATCCGTCAA        4140

ACGGGTGGTT GTTTTGTCTC GCACCTCACG GAGCGAGACG GACTCAGAGT CACATAATTA        4200

TAAGGCTGAT AGTATTAATC TAACTATCAG CtTmCAGGTT ATTTAACGTT TCAGAAAAAC        4260

TATAATGTCA AGATTAACTA AACAGTATCT AGTTCCTTCA AATAATTTTC TATCTTCATC        4320

AACATTAAAG GATTGTTATA AATCTTACAT AACTCTCTTG CTTCTATATA ATAATTTTTG        4380

ACTTGTTCTC TGTCTAGAAA TTTGGCTCCA GCATTTCCTA CAAGAATAAG TAGAGGAGCC        4440

AATTGGTAGC TTGTCTGTCT TTGTTTACAG AGTTCAATCG TTTCAAGAGC TTCTTGGATG        4500

GCTTCATTAT ATTTTTCCTT TGATACTAGG TAGTGAGCGT AGTTGTAACG AACTCTGATG        4560

TAGCCAAATA AAAACTCTTG ATGGTCCAAA TTTTTTGTCT GATACAACTC TATTAAATGA        4620

GAGTAGTTTG CCTCATATTC TTGTTCACGA CCCACTAAGG AATAGAAATT AGATAGAGTA        4680

TTCAACGCCT TTAAATAAAT CAGAGTATTT GAAGAGACTT TTAATAATAT ATTTTCCAAT        4740

GACGAAATTG CCTCACACTT ACTGTCATAT TGATAGAAGT CAATTATAGA TTTAATCCAT        4800

TCAAGGTAAG TTCGGTCTTC TAATGTTAGA AAAGTGCTTC GTTCTACTTC TATTTTATAA        4860

AGATATTCTA AATCGTCATA ATTTCTGTCA TCTAATAGGC GAGCAGATAG ATGTTTGAAA        4920

TTAGAGAGGT TAGACTTAAC TTCGATTTGT TCATTGAAAA AGTAATCCAA AGGGACTTCA        4980

AGTCGTTGAG AGAGTTTGAA TAACAAGTCT GCGGAGGGAA TAAAATGACC TCTTTCAATT        5040

TTACTAATCT GGCTTTGTTC ACAAATTCCT TCTGCAAGAG TTTGTTGGGA GAGTCT           5096

(2) INFORMATION FOR SEQ ID NO: 205:

        (i) SEQUENCE CHARACTERISTICS:
            (A) LENGTH: 2395 base pairs
            (B) TYPE: nucleic acid
            (C) STRANDEDNESS: double
            (D) TOPOLOGY: linear


        (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 205:

ACAAGATAAA AATAAAGGAT TACAATGGGG AATATAAAGT AAACCGGTAA ACCTAAAAAG         60

AAAGGAGAAA AGATGAAAAT TGTACTTGTA GGGCATGGAC ATTTTGCTAC AGGGATTTAT        120

AGTTCTTTAC AATTGATTGC AGGTAATCAA GAAAATGTGG AGGCGATTGA CTTTGTGGAA        180

GGAATGTCAG CAGATGAACT CAAGCAAAAA ATCTTACTTG CAATTTCAAA TGAAGAAGAA        240

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                                    1190
GTTTTAATCC TAAGTGATCT CTTGGGAGGA TCGCCATTCA AGGTTTCTTC TACCATAATG      300

GGAGAAAATC CAGCCAAGAC AATGAATGTT CTCTCGGGTT TGAACTTAGC CATGTTAATG      360

GAAGCAGTCT TTGCTAGAAT GGCTCATAGC TTTGATGAGG TTGTTAATAA ATCAGTAGTG      420

GCGGCCCAGG GCGGAGTCGT AAATGGTAAA GAATTGTTTT CAACGGATGC AGAGGAAGAG      480

GAAGAAGATT TCGAATCGGG TATTTAAAGG GTAAAAGAAT GATAAAAAAG GTTACGATTG      540

AAAAAAATAAA ATCGCCTGAG CGCTTCTTAG AAGTACCACT TCTGACGAAA GAAGAAGTCG      600

GCCAGGCAAT CGATAAGGTT ATTCGGCAGT TAGAACTCAA CCTTGACTAT TTCAAGGAAG      660

ATTTCCCGAC GCCAGCTACC TTTGATAATG TCTATCCAAT CATGGATAAC ACGGAATGGA      720

CCAATGGTTT CTGGACAGGA GAACTGTGGT TGGCTTATGA ATACAGTCAA CAGGATGCAT      780

TTAAAAACAT CGCTCATAAA AATGTTCTTT CTTTCCTGGA TCGTGTCAAT AAGAGAGTAG      840

AATTGGATCA CCATGATCTC GGCTTCTTGT ACACACCGTC TTGTATGGCT GAATATAAGA      900

TAAATGGAGA TGGAGAGGCT AGAGAAGCAA CCTTGAAAGC TGCAGATAAG TTGATTGAAC      960

GCTATCAAGA AAAAGGTGGT TTTATTCAAG CTTGGGGAGA CTTGGGCAAG AAAGAGCATT     1020

ACCGTTTGAT TATCGACTGC TTGCTCAATA TCCAACTCTT ATTCTTTGCT TATCAAGAAA     1080

CAGGCGATCA AAAATACTAC GATATTGCAG AAAGCCATTT CTATGCTTCA GCTAATAATG     .1140

TAATCCGTGA TGACGCTTCG TCCTTCCACA CCTTCTATTT TGATCCTGAG ACAGGTCAAC     1200

CCTTTAAAGG TGTAACGAGA CAAGGGTATA GTGATGATTC ATGCTGGGCA CGTGGTCAAT     1260

cATGGGGAGT CTATGGTATT CCTTTGACTT ATCGTCACTT AAAAGACGAG tCCTGCTTTG     1320

ACTTGTTTAA GGGTGTGACC AATTATTTCT TGAATCGTCT GCCAAAAGAT CATGTGTCCT     1380

ATTGGGATTT GATTTTTAAT GATGGTAGTG ATCAATCACG AGATTCTTCA GCAACAGCTA     1440

TCGCCGTCTG TGGGATTCAT GAAATGCTAA AACATCTCCC AGAGGTGGAT GCTGACAAAG     1500

ATATTTATAA ACATGCTATG CATGCCATGC TTCGTTCCTT GATCGAACAT TATGCAAATG     1560

ATCAATTTAC CCCTGGTGGG ACAAGTCTCC TCCACGGTGT GTACTCATGG CATTCAGGTA     1620

AAGGAGTGGA TGAAGGCAAT ATCTGGGGTG ACTACTATTA CCTAGAAGCC CTTATCCGTT     1680

TCTACAAAGA CTGGAACCTA TATTGGTAGG AGGAGAAATA TGACAATGCC AAATATTATT     1740

ATGACCCGTA TCGATGAACG GTTGATTCAT GGACAAGGAC AACTTTGGGT AAAATACCTA     1800

GGTTGTAATA CGGTCATTGT TGCCAATGAC GAAGTAAGCA CGGACAAGAT GCAACAAACT     1860

CTGATGAAAA CAGTTGTGCC AGACTCAGTT GCCATGCGTT TCTTCCCTTT GCAAAAGGTG     1920

ATTGATATCA TTCACAAGGC TAATCCTGCT CAAACGATCT TTATCGTTGT AAAGGATGTG     1980

AAGGACGCTT TAACCTTGGT AGAAGGTGGT GTCACTATCA AAGAAATCAA TATTGGGAAC     2040
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1191

ATTCACAATG CCCCTGGTAA AGAGCAAGTG ACACGCTCCA TCTTCCTGGG TGAAGAGGAC          2100

AAGGCGGCCC TCAAGGAATT GAGCCAAACT CATCAAGTAA CATTTAATAC GAAAACAACT          2160

CCAACAGGAA ATGATGGAGC TGTTCAAGTC AACATTATGG ACTATATTTA ACAGAGGAGA          2220

TCGTTATGTC GATTAATGTA TTTCAAGCGA TTTTAATTGG ATTATGGACA GCTTTCTGTT          2280

TTAGTGGAAT GCTGTTAGGA ATTTACACCA ATAGATGTAT TGTTCTGTCA TTTGGTGTCG          2340

GAATTATTCT AGGTGATCTG TCATGCTCTT GCAATGGGAG CCAATGGTGA ATTGG             2395

(2) INFORMATION FOR SEQ ID NO: 206:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 3342 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear


    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 206:

CCTTCTTTAG AGGTTAATTT TGCAAAATCG TCGATTGTTA TATAAGGATT ATTATAGAGA          60

CTGTTCGCAA AGAATCTCTG ATATGTTTTT GAATCTTTTG AATACAAAAC TATCTCTCTA          120

ATAGCATTGC CATCTGTTCC ATCAATTGGT AAACATACCG TAACTAGAAA AAGAATTATA          180

TTCAAAATAA AAAATTCTGA TGCGTACGGC ACAAATCCCA AAAGTGCTAA TATTGCGACA          240

ATTAGGTTAG CTCCACCTCC CCCAAAGAAG TAGAACACCA AATTCCTATC ACTATTTTTT          300

TCATTAGTAA TGTTTCTATT ACTCATTTGA CAATAACCGA ATGCTAATAA CACTGGAAAT          360

TTGAAATATA TTTTTTTTCT GAAATAGAAG AAAAAGGGAG TAGCAAGCAT CTCTAGTTTA          420

TAAGATAAAC ATCTTCCCAC TAAAAAATGA CCTAGTTCAT GTAATGTAAT TGATATTAAC          480

GAAATTAAAA TCAATCGAAA ATAATAGATT AATGAATCAT TTGGAAAAAT TATCAATAAT          540

AGGAACAATA ACGGAATCAA ACATAAATAT ATGACAGAGT TATTTAATAT TTTCAACATA          600

ATACCATTCC TCTAAACTAT TAGCTTCAAA AAGGCGTTTT TTCTCCCAAT ACATCTTCTC          660

AAAATGTTCG GAATCATAAT TTTCTAAAAT TAATTTTAtG TCTGGTAAGC TCTTTCTTGA          720

TAATCCGTTG TTTTGTACTT AATTTTCCCT TCAAGTACAT CTTCAATTTT ATAAGTTGCC          780

TCCATCAACT GAGCCTCTGC AATATCTTTG AGTGAATTGG TAATTGAAAC TTGGTGTAAT          840

ATCTGTCCts CCATATATGA AAATATATCT CTAAGATATT CTGACACATT ATCAGAGCCG          900

TTACTCTCAG CAACATCTAA TGTTACAACA AACTTTCCAG CTAATCGAAA AAGATGGCTC          960

CACCCCCCAA TCCTTTCAAT AAAGTTTTTT GTGTCCACAG ATACGTTTTG TAAATATACA          1020

1192

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GGAGAAGAGA TAATTATAAT ATCAGACTCT AATAACTCTT TTTTTATAAC ACCTCCATCA      1080

TCAGCATTAC TTTGCCTATC AATTCCTTTC TTAAACAACT CTTCTGAATC AGAATTAGAT      1140

ATTTCTAGCT CTGAATTGAA AGGTGTCCTG AAAGATATAT CAACATTATT TCTACTAGAA      1200

ATGATACTTG AAAGTCTCTT AGTATACTCT AAAGTCTTAG AGTTATGATT TCGCACTCCT      1260

GCATATATAA ATATTTTATT CATTTTAATT CATCCTCTCA ATTTGAATTT AGTAGATTTT      1320

TCAAGATAGT ATGGTACAAA AACAGACTTT TGTTGACTCA CATTATTACA TATGTTTTGT      1380

ATTAAACCAA AATCAATACT ATTTTTGGAG TAATTTTGAT TTTAGTTTAA AATCATTTCT      1440

ATAACAGTAG CATATACCTC AAGCCGTTTA GCAATTAGAA TAGAACTTTT CTTTATTATA      1500

TTATTATCTC AACGAAAAGC TACACTATTA AAAATATTTT ATAGAATTAC ATATTAAACT      1560

AGTCAATCTT GGTATTTTTA TATTGCTTAA TGAGTGGACA CCTCTATTTT AGAAACAAAA      1620

CTATAAATTA AGCTAGATTT CAAGTAATGA GGGGATAACT ATCTTTTTGT CATTCTGATT      1680

CAGTGCGATA TACCTAAAAA AAGTATAAGC AATACCAGTC ACACCTGTAT ACAAAGAAAA      1740

ATCTGGGAAA TTGCTTGTTT GGACGATACG ATACTCTCCT TCTTTTGATT TATTCATTAC      1800

AACACTACAC AATAAAGACT CCAATTCCAT ACTAGTATCC ATTTCTTTCA TGTAGTCGAT      1860

GTAAAAATTT ATTATGGCCA TACTTCCATG GCAAAATGTA TCATTATCTA AACTAGCTAC      1920

AATTCCCTCT GGAACACTTT GGGGATGATT AACTAATGTC CCAAATTCTC CACTACACCA      1980

CTTCAAAGAA TGAATTTTGA TTTTCTCCCT AGGAACTAGT TGTAAAATTA ATTCTTTATA      2040

TTTTTTAAGT CTTGTCACTT TATAAATATT TTTTAATGTA AAAATTACAC CTGATAGTCC      2100

ATGGCCAAAA CTATATCCAA AATTACTATT ATCTCTCTCG CTTACATCAT TATATAGCGT      2160

ATCACCTAAA CTTAATACTA GCCTTAGAAC ACGTTCCTTC TCTATTCCTC TCCTATAATA      2220

TCTTACCAGT GTATTAATTA AAGGTAGAAG ACCATTAATA TAGTCAGACT TGTTTGAAAC      2280

ACTTGCAAAA TCAGTCTTTT CAAGCTCAGT TAAAACACTC TTTATATAAT TTAAGCATGC      2340

GAGAGTATTT GTATCGTAAT CCTCTATAAT GGATAGAACA ATGAAATATC CTATATCCCC      2400

AGTTAAACCA AATGTGGTCT TAGATAAAGA AACAGATGGC GGAATTGCAG ATAACATTTT      2460

ATTGTACAGT TGAGTATATG ATGATTTATC TTTCAATAAT TTTACATAGT ACATAAACAG      2520

TAATATTCCA GCTCTACCCC TATACATATC ATTmCCCGTT TGTTCAAGAC ACCATTTAGA      2580

ACCTTTAAAA TTAACAGGTA TACTCCAAAT TGGATATTCG TCATAAATAT TATTAATAAC      2640

CAAAGAGTCT GCAATATTTT CTACTTCATT ATGCAGAATA GTAACTAAAC TTTCATTTGG      2700

GAGTTTTTTT CTATTAGATA AGTTTAATTT ATATCCTTTT TTTCGCTGAT CAAAGCTTGG      2760

AAAATAAATT TCAATGATAT CAAGTTGCTT TTCTAAATTT TCCAAATTAT TATTAGGTAA      2820
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1193

ATATTTCATA AAATAGTCAT ATCCAGAAAA TTGATGTAGG GAAATAAAAT GATTTCCAAA            2880

ATCATCGTAG ATTTCATTGA TATTTGTATC TGTATAAAAA ATCGGAATAT CTAATAACCT            2940

CATTTGTTCA CATTCGCTTG CTACAATACC TTGATTAGAA AACTTATTGC TCCAGAGATT            3000

TTCCAATGCT TTTTCTCTAT CTAACATTTC TTCATAAAAA TCAGGATGAT ATAAAAAAGA            3060

TAGTACTGAA GCATAGCTAT TTGTGTCTCT AAAAAGTACC CTTGTCTTTA AACCATACAA            3120

GTTTGCTTTT AATAGCATTT TAAATTCTTC TGTTTTATTT AACTCTTCAA ATATCAGATA            3180

AAAATCCCTA AAACCTTTTT TGAAATCTTT TATATACTTA TCAAATTCTA TATCACCATC            3240

CCGAACAGGC AGGTTTTTCC CACCTTCAAA ATCAATTTTC CCAATATCAA ACTTTACCTT            3300

ATCAGTATTT AAATTAATTA AAACTTGACC AGGGATCCTC TA                              3342

(2) INFORMATION FOR SEQ ID NO: 207:

    (i) SEQUENCE CHARACTERISTICS:
       (A) LENGTH: 3454 base pairs
       (B) TYPE: nucleic acid
       (C) STRANDEDNESS: double
       (D) TOPOLOGY: linear


    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 207:

GAGAAAAGAA TGTTAAAGAA AAATGATATT GTAGAAGTTG AAATTGTTGA TTTGACCCAT              60

GAAGGGGCAG GAGTTGCCAA GGTAGATGGT TTGGTCTTTT TTGTAGAGAA TGCTTTACCG             120

AGTGAAAAAA TTCTCATGCG TGTCCTCAAG GTCAATAAAA AGATTGGCTT TGGAAAAGTT            180

GAAAAATACC TTGTCCAGTC ACCACACCGT AATCAAGATC TAGATTTGGC TTACCTGCGT            240

TCAGGAATCG CGGATTTAGG ACACCTTTCT TATCCAGAAC AGCTCAAGTT TAAAACCAAG            300

CAAGTCAAGG ACAGTCTCTA CAAGATTGCT GGAATTGCAG ATGTAGAAGT TGCTGAAACG            360

CTTGGTATGG AACATCCAGT CAAGTATCGC AATAAGGCGC AGGTGCCCGT TCGTCGAGTG            420

AATGGTGTCT TGGAAACAGG ATTTTTCCGT AAGAATTCGC ATAACCTCAT GCCCCTTGAA            480

GATTTCTTTA TCCAGGATCC TGTCATTGAC CAAGTCGTAG TAGCTCTTCG AGACCTGCTC            540

CGTCGTTTTG ATTTAAAACC TTATGACGAA AAGGAACAGT CTGGATTGAT TCGGAATCTT            600

GTGGTGCGTC GTGGTCACTA TTCAGGACAA ATCATGGTCG TTTTGGTGAC AACTCGTCCA            660

AAAGTTTTTC GTGTTGACCA ATTGATTGAA CAAGTTATCA AGCAGTTCCC AGAGATTGTG            720

TCTGTCATGC AAAATATCAA CGACCAGAAT ACCAATGCGA TTTTTGGTAA GGAGTGGCGC            780

ACTCTTTATG GTCAAGACTA TATTACGGAC CAGATGTTGG GAAATGACTT CCAAATCGCT            840

1194

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GGCCCAGCCT TTTACCAAGT CAATACTGAA ATGGCGGAGA AACTCTATCA AACAGCCATT      900

GACTTTGCAG AGTTAAAAAA AGATGATGTG ATTATTGATG CCTATTCTGG TATTGGAACC      960

ATTGGTTTAT CAGTCGCCAA GCATGTCAAA GAAGTCTACG GTGTTGAACT GATTCCAGAA     1020

GCAGTAGAGA ATAGCCAGAA GAATGCTTCT TTGAACAAGA TTACTAATGC CCACTATGTC     1080

TGTGACACGG CTGAAAATGC CATGAAGAAA TGGCTCAAGG AAGGTATTCA ACCAACCGTT     1140

ATCTTGGTTG ATCCTCCACG CAAGGGCTTG ACAGAAAGCT TTATCAAAGC AAGCGCCCAA     1200

ACAGGAGCCG ATCGCATCGC CTATATCTCC TGCAATGTCG CAACCATGGC GCGTGATATT     1260

AAACTATACC AAGAGTTGGG ATATGAATTG AAGAAAGTCC AGCCGGTGGA TCTATTTCCT     1320

CAAACGCATC ACGTCGAGAC GGTAGCACTT TTGTCCAAAC TCGATGTCGA TAAGCACATA     1380

AGTGTTGAAA TTGAGCTGGA TGAGATGGAT TTGACAAGTG CGGAGAGCAA AGCAACATAT     1440

GCTCAAATCA AAGAATATGT TTGGAATAAA TTTGAATTAA AAGTTTCGAC ATTATATATT     1500

GCACAGATAA AAAAGAAATG TGGAATAGAA TTACGAGAAC ATTACAACAA GTCTAAAAAG     1560

GATAAACAAA TTATTCCACA GTGTACACCT GAAAAGAAG AAGCCATCAT GGATGCTTTG     1620

AGACACTTCA AAATGATTTA ATAGAAAAGA ATGACAGTAT ATGACTTTCT GCATTTATTA     1680

CATTCCTACT TGGTATAGGA ACAGCTATTA TTCCTTTCTT GCAAGGTATC AATTAGAAAA     1740

TAGGCTCAAT ATAAAGATTG ATAGGATCAT TTTTATATTT AAAGGAGCGT TGAAATGATT     1800

GATAAAGGCA ACAAAAAATT TTAGGATAAA TTTGCTAAGT TGTATGCCTC TTTTATGAAA     1860

AAAGATAAAG AGGTTTATGA TAAAGTTTGT GAATATCTTA GTCCTCATTT GAATAAAGAT     1920

ATGGAGGTGC TTGAACTTGC TTGTTGGTTT CGTGTCATAA CAGTTATAGA GGCAAATAGT     1980

TATGTAAATA TAAGGAGTTC AAGACTTCTA CCAAAGTTTA AAACTCAAAA AATAAATAGT     2040

TGGTGTGCTG CTTACAATAT CCATTTTAAT AATGGATATT GTAAGCAGCA CCCCcAtGAA     2100

TTTAAAGATT CTTTAAAGAG TCTTATTTTG TGATGAAAAT TTAATATGTA AATCTCAGAC     2160

GATAGAAATT AAAAACTCTA TCGTCTTTTT TATACTCAAA ATTAGGAGGT AAAAATGGTA     2220

AGGATAAGAG GTCCCACTTA AAACAATTTA TGGCAAAATA AGGACGGAAT AACACAACAA     2280

ATTCTCTAAA ACAAATCACT AAATCAATGT AAGATTGAAT GAAATCAATA TTTATGCTAT     2340

AATTAAATAA ATTTAATGAA GAAAAAAAGA GGGATATTAT GGCACTTAAC TATAAACCAT     2400

TATGGATACA GTTAGCAAAA AAAGGACTAA AGAAAACAGA TGTAATAGCT ATGGCAGGAC     2460

TTACAACAAA TGTTATGGCA CAAATGGGAA AGGATAAACC AATTACATTT AAGAATTTAG     2520

AAAGAATATG TAAGGCTTTA TCTTGCACTC CTAATGATAT TATTAGTTTT GAAGATAATT     2580

TTAGTGACGA GGAATAGAAA ATGACTTTAA GGACAGAAGA TCAAGTTAGG GATTATGCAA     2640
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1195

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GAGAAGTATA GGCTTTAATG AAGTTGAAGA AAACATCAAT CAAGGTACTG GTCAAATAAC          2700

TACTTTTAAT CAATTAGGCT TCAAGGGATA TTCAAATAAG CCAGATGGTT GGTATTTACC          2760

TAAAAATATG AATGATGTAG CAATAATCCT TGAAACAAAA TCAGAAGAAA GAGATATTAG          2820

CAAACAAATT TTTATTGATG AGTTAATGAA AAATATAGAC ATAATTTAAC TAAAAATAAA          2880

AACTAGATCC TTTTTTGAAA AAATTATATT ATTAAATTTG TAACTGTATC TATTGACAAT          2940

GATAATTATT ATCGATACAA TAGACTTGAA ATATGTTTAA GGAGTTTTTA TGAAAaCAAA          3000

TTTTTTCTAA TmGCTATTTT AGCTATGTGT ATAGTTTTTA GCGCTTGTTC TTCTAATTCT          3060

GTTAAAAATG AAGAAAATAC TTCTAAAGAG CATGCGCCTG ATAAAATAGT TTTAGATCAT          3120

GCTTTCGGTC AAACTATATT AGATAAAAAA CCTGAAAGAG TTGCAACTAT TGCTTGGGGA          3180

AATCATGATG TAGCATTAGC TTTAGGAATA GTTCCTGTTG GATTTTCAAA AGCAAATTAC          3240

GGTGTAAGTG CTGATAAAGG AGTTTTACCA TGGACAGAAG AAAAAATCAA AGAACTAAAT          3300

GGTAAAGCTA ACCTATTTGA CGATTTGGAT GGACTTAACT TTGAAGCAAT ATCAAATTCT          3360

AAACCAGATG TTATCTTAGC AGGTTATTCT GGTATAACTA AAGAAGATTA TGACACTCTA          3420

TCAAAAATTG CTCCTGTAGC AGCATACAAA TCTG                                      3454
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(2) INFORMATION FOR SEQ ID NO: 208:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 3752 base pairs
        (B) TYPE: nucleic acid
        (C) STRANDEDNESS: double
        (D) TOPOLOGY: linear


    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 208:

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CGGGAGTATA CTTAATATAA TTATAGTCTA AAAATGACTA TCAGAAAAGA GGTAAATTTA           60

GATGAATAAG AAAAAAATGA TTTTAACAAG TCTAGCCAGC GTCGCTATCT TAGGGGCTGG          120

TTTTGTTACG TCTCAGCCTA CTTTTGTAAG AGCAGAAGAA TCTCCACAAG TTGTCGAAAA          180

ATCTTCATTA GAGAAGAAAT ATGAGGAAGC AAAAGCAAAA GCTGATACTG CCAAGAAAGA          240

TTACGAAACG GCTAAAAAGA AAGCAGAAGA CGCTCAGAAA AAGTATGAAG ATGATCAGAA          300

GAGAACTGAG GAGAAAGCTC GAAAAGAAGC AGAAGCATCT CAAAAAATTGA ATGATGTGGC          360

GCTTGTTGTT CAAAATGCAT ATAAAGAGTA CCGAGAAGTT CAAAATCAAC GTAGTAAATA          420

TAAATCTGAC GCTGAATATC AGAAAAAATT AACAGAGGTC GACTCTAAAA TAGAGAAGGC          480

TAGGAAAGAG CAACAGGACT TGCAAAATAA ATTTAATGAA GTAAGAGCAG TTGTAGTTCC          540
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1196

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TGAACCAAAT GCGTTGGCTG AGACTAAGAA AAAAGCAGAA GAAGCTAAAG CAGAAGAAAA        600

AGTAGCTAAG AGAAAATATG ATTATGCAAC TCTAAAGGTA GCACTAGCGA AGAAAGAAGT        660

AGAGGCTAAG GAACTTGAAA TTGAAAAACT TCAATATGAA ATTTCTACTT TGGAACAAGA        720

AGTTGCTACT GCTCAACATC AAGTAGATAA TTTGAAAAAA CTTCTTGCTG GTGCGGATCC        780

TGATGATGGC ACAGAAGTTA TAGAAGCTAA ATTAAAAAAA GGAGAAGCTG AGCTAAACGC        840

TAAACAAGCT GAGTTAGCAA AAAAACAAAC AGAACTTGAA AAACTTCTTG ACAGCCTTGA        900

TCCTGAAGGT AAGACTCAGG ATGAATTAGA TAAAGAAGCA GAAGAAGCTG AGTTGGATAA        960

AAAAGCTGAT GAACTTCAAA ATAAAGTTGC TGATTTAGAA AAAGAAATTA GTAACCTTGA       1020

AATATTACTT GGAGGGGCTG ATCCTGAAGA TGATACTGCT GCTCTTCAAA ATAAATTAGC       1080

TGCTAAAAAA GCTGAGTTAG CAAAAAAACA AACAGAACTT GAAAAACTTC TTGACAGCCT       1140

TGATCCTGAA GGTAAGACTC AGGATGAATT AGATAAAGAA GCAGAAGAAG CTGAGTTGGA       1200

TAAAAAAGCT GATGAACTTC AAAATAAAGT TGCTGATTTA GAAAAAGAAA TTAGTAACCT       1260

TGAAATATTA CTTGGAGGGG CTGATTCTGA AGATGATACT GCTGCTCTTC AAAATAAATT       1320

AGCTACTAAA AAAGCTGAAT TGGAAAAAAC TCAAAAAGAA TTAGATGCAG CTCTTAATGA       1380

GTTAGGCCCT GATGGAGATG AAGAAGAAAC TCCAGCGCCG GCTCCTCAAC CAGAGCAACC       1440

AGCTCCTGCA CCAAAACCAG AGCAACCAGC TCCAGCTCCA AAACCAGAGC AACCAGCTCC       1500

TGCACCAAAA CCAGAGCAAC CAGCTCCAGC TCCAAAACCA GAGCAACCAG CTCCAGCTCC       1560

AAAACCAGAG CAACCAGCTA AGCCGGAGAA ACCAGCTGAA GAGCCTACTC AACCAGAAAA       1620

ACCAGCCACT CCAAAAACAG GCTGGAAACA AGAAAACGGT ATGTGGTATT TCTACAATAC       1680

TGATGGTTCA ATGGCAATAG GTTGGCTCCA AAACAACGGT TCATGGTACT ACCTAAACGC       1740

TAACGGCGCT ATGGCAACAG GTTGGGTGAA AGATGGAGAT ACCTGGTACT ATCTTGAAGC       1800

ATCAGGTGCT ATGAAAGCAA GCCAATGGTT CAAAGTATCA GATAAATGGT ACTATGTCAA       1860

CAGCAATGGC GCTATGGCGA CAGGCTGGCT CCAATACAAT GGCTCATGGT ACTACCTCAA       1920

CGCTAATGGT GATATGGCGA CAGGATGGCT CCAATACAAC GGTTCATGGT ATTACCTCAA       1980

CGCTAATGGT GATATGGCGA CAGGATGGGC TAAAGTCAAC GGTTCATGGT ACTACCTAAA       2040

CGCTAACGGT GCTATGGCTA CAGGTTGGGC TAAAGTCAAC GGTTCATGGT ACTACCTAAA       2100

CGCTAACGGT TCAATGGCAA CAGGTTGGGT GAAAGATGGA GATACCTGGT ACTATCTTGA       2160

AGCATCAGGT GCTATGAAAG CAAGCCAATG GTTCAAAGTA TCAGATAAAT GGTACTATGT       2220

CAATGGCTTA GGTGCCCTTG CAGTCAACAC AACTGTAGAT GGCTATAAAG TCAATGCCAA       2280

TGGTGAATGG GTTTAAGCCG ATTAAATTAA ATCATGTTAA GAACATTTGA CATTTTAATT       2340
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1197

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TTGAAACAAA GATAAGGTTC GATTGAATAG ATTTATGTTC GTATTCTTTA GGTACCTATC      2400

TTATGATTTC AGGAAATGTC ATTAAAAAAA CGACTCATTT TCTCTAACCT GAAAAATAGA      2460

TTAGAGAAAA TGGGTTGTTT TATCTATTAT AGTTATTTGA ATGAAGmTAA GAAGAAGGTA      2520

TACTCACATC ATTCACATAA TCTGTATATT GACTATAAGT TTTAAAAAAC AATTTTTAAG      2580

CTCTTCCTTG TCTTCTCTAA CCAAGCGTGT TATAATGAAT ACTGCTCAAG CGACCTTCAA      2640

TCGTGAAGCA CACACGACCT TCAATCGTGA ATAAACGAAT AGATGGGAGA CTTACCATGA      2700

GTGATAACTC TAAAACACGT GTTGTCGTGG GGATGAGTGG TGGTGTTGAT TCGTCGGTGA      2760

CGGCTCTTTT GCTCAAGGAG CAGGGCTACG ATGTGATCGG TATCTTCATG AAGAACTGGG      2820

ATGACACAGA TGAAAACGGC GTCTGTACGG CGACCGAAGA TTACAAGGAT GTGGTTGCGG      2880

TGGCAGACCA GATTGGCATT CCCTACTACT CTGTCAATTT TGAAAAAGAG TACTGGGACC      2940

GCGTTTTTGA GTATTCCTA GCGGAATACC GTGCAGGGCG CACGCCAAAT CCGGACGTTA      3000

TGTGCAACAA GGAAATCAAG TTCAAGGCCT TTTTGGACTA TGCCATAACC TTGGGGGCAG      3060

ACTATGTAGC GACTGGGCAT TATGCTCGAG TGGCGCGTGA TGAGGATGGT ACCGTTCACA      3120

TGCTTCGTGG CGTGGACAAT GGCAAGGATC AGACCTATTT CCTCAGCCAA CTTTCGCAAG      3180

AACAACTTCA AAAAACCATG TTCCCACTAG GACATTTGGA AAAGCCTGAA GTACGCAGAC      3240

TAGCAGAAGA AGCAGGCCTT TCGACTGCTA AGAAGAAAGA CTCGACAGGG ATTTGCTTTA      3300

TCGGAGAAAA GAACTTTAAA AACTTTCTCA GCAACTACCT GCCAGCTCAG CCTGGTCGCA      3360

TGATGACTGT GGATGGTCGC GATATGGGCG AGCATGCAGG TCTTATGTAC TATACAATCG      3420

GTCAGCGTGG CGGACTCGGT ATCGGTGGGC AACACGGCGG TGACAATGCC CCTTGGTTCG      3480

TTGTCGGAAA AGATCTAAGC AAGAATATTC TCTATGTAGG ACAAGGATTC TACCATGATT      3540

CGCTCATGTC AACTAGCCTA GAAGCCAGTC AAGTCCACTT TACTCGTGAA ATGCCAGAAG      3600

AGTTTACGCT AGAATGTACG GCTAAATTCC GTTACCGTCA GCCTGACTCT AAGGTGACCG      3660

TTCATGTCAA AGGAGAAAAG ACAGAGGTCA TCTTTGCGGA ACCACAACGC GCGATTACAC      3720

CAGGACAGGC AGTTGTCTTT TACGATGGCG GG                                    3752
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(2) INFORMATION FOR SEQ ID NO: 209:

        (i) SEQUENCE CHARACTERISTICS:
             (A) LENGTH: 3580 base pairs
             (B) TYPE: nucleic acid
             (C) STRANDEDNESS: double
             (D) TOPOLOGY: linear

1198
(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 209:

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TATTTATATT TTTTTATCTC TGGCATACTT TGATACCTTT TTAGACTTAA AGTCTTTAAT        60

AGTGCCTTTC CACCTCTTTT TATCTATAAA GATTCTCCTA CATCATAATT CATTTTTTTA       120

TTTAAACCTT TCTGTCTTAG TTTGTCTTTA TCTTCTTCAT ACCATTTTAA GATTGTCACA       180

TAGTGGTTTT GATAGGTCTT ACCACTGCTT TCCATGTATC TGGATAGTTT ATTTATCATT       240

ATATCTGTGT GTGAGTTTAA TTTTTCTTTT AGATTTTTAT ATTCTTCTTT GCTTAACCTT       300

ACATTTTTGA ATTCTCCATA AAAAATGGGG GTGGACTTTT TATCTATCTC TCCCTCTCTC       360

TCTTTATCTA TCTCTATATC TTTCCATGTA ATTCCAATCT GGAGTACCTC TACTGTCTAT       420

CGGTAATTTA ATTTTGATAT CTGGCAATAC TGTGCTAGAT ATTTGATCTT TATATTCAGT       480

ATTTTTTAAA GCTTGCCTAA TAATTGAAGT TAAATAGAAT GCTACTTCTT TATTCAATTC     , 540

TTTATTTTTT AATTTTAAAC AATGAATTTT CATATCTAGG CTTGCTTTAT ATTTATGATA ·     600

AAAGACTGCT CCTAAAAATG AAACAGATAT AAAATTTTCA AAAACTCTAT AATTTTTATC       660

ATCTATATCT TCGTAGTAAC CTAAGATACC ATTGTCAATA TTTGTAGCAC TAATTCTAGG       720

AGTTTTTCCA TCGAGTAAAT ATCTTTTTGG AATAGATGAG CCTGTTGGTA CTTAACTCGA       780

TTTCCCCTTT TTTTCGGTAA TAAATATTTC TTTTTATTTT GTTGTCTGAT ATTTTTCCTA       840

CCTGTCCTTT GTAGGATGAG TATTTTCTAG ATTTTCyTGA ATAACTTTTT ACTTGAAGTT       900

TTAGCTTTTG AACTAGTCGT TGTACTTTCT TTTTGTTTAT TATCAGTCCT GATCTTTTTA       960

ATATTGCTGT TATTCTCTAT ATCCTATTTT TCATTCATGA TATTCTTTTA CTAATTTTAT      1020

CTTAAATTCT GTGCTGTATT TGCCATTAAA AAACTGACCT CCTTTAGTTA GTTTTTTGGC      1080

CTAACTTTTG AGGGTCAGTT CAAAATTTGC GACTTTTAAA TGAATTCCAA TATTCAATTA      1140

TTAAGAGTTA ACATGGTGCT TGCCAATAGG AATCATTAGA GGCGAATTGG AAATAGGGTC      1200

ACGTATAATT TTTGCTTCAA GATTAAAGAT ATCTTTAACT AGTTTATCAT TTAGTATATC      1260

TTCAGGCTTT CCCTCTGCAA CAAGTTTACC TTCTTTAATT GCAAATAGGT AATCAGCGTA      1320

TCTTGCTGTT AGATTATAT CGTGCAAAAT CATGCAAATG GTTGTCTTAT ATTTTTGGTT      1380

TAGATCAGTC AAGAGGTCTA ATAGTTCTAT TTGATATGAG ATATCCAAGT AAGTAGTTGG      1440

CTCATCTAAA AGTAGGATAC TTGTATCTTG GGCTAGGGCT AGAGCTATCC ATACTCTTTG      1500

CCTTTGACCC CCAGAAAGTT CTTCAACTAG GTTATTTGCT AGATCTTCAA CATTGGCCTT      1560

AACCATTGAT CTGTTTATTA TTTCAAGGTC ATCTTTTCCA AGACTCTTAA AAGGCTTTCT      1620

GTAGGGGAAA CGACCACGGC TTACAAGATC AGCTACTGTT ATTGATTCAG GGATTATTGG      1680

AGATTGAGGT AATATAGCTA TGTGTTTTGC TAAATCTTTT TCTTTATAAG AATTAATTGA      1740
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